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THE NEW YEAR

AT a season traditionally associated with high hopes and high spirits it is a matter of some concern to find a general air of disappointment and disillusion abroad, which is quite foreign to the New Year period. In many respects this can be fully understood, but the months of Peace are still too few for us to have forgotten from what we have so narrowly escaped; 1947 under the Nazis would have been indeed a grim season, in which there would have been no room for rejoicing and little occasion for good fellowship. If war still continued the times would be too anxious and forbidding for much of the New Year spirit to prevail, though even in the anxious war years, such a little distance behind us, we contrived to maintain a good heart and to infuse into the New Year period a wealth of human feeling.

It must be felt, therefore, that we have lost some of our sense of proportion in an impatience to return to normal, and we should remind ourselves of the ordeal through which we have passed and the comparative blessings we are now enjoying. If it were only the release from continual anxiety for relatives and from the daily threat of destruction from bomb and rocket we should have much for which to be thankful at this start of another year. But in fact, we have much more than that standing already to our credit.

Sudden relief from the tensions of war inevitably brings its reaction, and in other countries this has taken the form of class discord and even civil disturbance. In this country we have been spared serious disturbances of this kind, and a general atmosphere of peace and reason has persisted between class and class. Such minor discords as have appeared have been but a fraction of the disturbance suffered by our much less severely tried cousins across the Atlantic.

What has been so far accomplished by our country is by no means unsatisfactory, following upon the dislocation of total war in which we were so deeply involved such a few months ago, and within it is room for much of the happiness for which we longed while still beset.

But we shall be slipping into a harmful complacency if we bask too readily in a sunshine which is bright only in comparison with the gloom. The New Year is a crossroads from which we can look both forward and backward and to either hand, so as to pick out the landmarks ahead, and survey the false steps we have made in the immediate past or are making at the moment.

In the building industry we cannot feel that full use has been made of our limited resources, for the tasks that have been done serve but a minute fraction of our needs. Excuses we have in plenty, but these will not avail to absolve this generation if it fails in the far easier half of the great effort.

The country has voted to power a party pledged to a programme of socialisation, and it is inevitable that such a course of events should entail an increase in bureaucratic control and the swelling of the ranks of officials. Opinions will be divided as to whether or not this is good for the country and the best way out of our difficulties, but all shades of opinion will agree that unless this, or any other system, succeeds in setting productive forces effectively to work, great harm may be done before the failure has been proved.

It must be a matter of grave concern to those who are anxious for the wellbeing of the country to see the vast numbers of officials that have become engaged upon administrative work of a totally unproductive character, and the amount of time absorbed out of the busy lives of those who are productively engaged, upon work of a statistical and formal character, also entirely unproductive.

Until we contrive means of making State control a stimulus to production instead of a hindrance, we shall most certainly lag behind in the desperate race in which we are engaged. Officialdom has become associated with procrastination, redundancy and obstruction, not merely under a Labour Government but under all parties, and we do not regard this problem as one of party politics but as a matter of common sense. Nobody seems to be engaged upon its solution, and we suggest that this is a New Year resolution which might well be adopted by those who have the power to act.

Partly arising out of this atmosphere is the unsatisfactory mood of the workers. Too many of them have been encouraged to regard the State as a bottomless cache of treasure from which they can abstract every desire without obligation in return. There is need for some stirring leadership to cure this fatal mood and to show the common man that he and his like are the State, blessed only with such resources as he and his like create. Inflation is no longer a threat but a fact, and unless production can keep step with high wages the whole system is threatened. Resolved let it be, then, that every human unit that makes up the State shall put into the task all the energy of which it is well capable, as the War has proved.

We are also suffering under various shortages, which have seemed to worsen in the early months of Peace. Of late, steel, the hitherto unfailing reserve, has become scarce, for reasons which are obscure and yet to be fully explained. Timber, precious to an island country while the seas were closed, we are now told is to be more scarce then ever. From week to week we get contradictory news about bricks and tiles. One week we are warned to eliminate them wherever we can, and the next we are begged to relieve the overloaded yards by taking early delivery. There is every sign of inadequate planning of our resources and official circulars seem at times to lack the reliability which we have a right to expect from sources to which the facts must be known.

In the meantime we improvise where we can, and so throw still more out of balance the lopsided markets we have to handle. At the same time we proceed with a permanent programme lacking the soundness of method which permanence needs.

We are well aware of the problems of foreign exchange to a country which has liquidated its assets in the world cause, but we have yet to be convinced that the right way out of our embarrassments is to cripple the power of recovery at home. There is a clear need for more capable planning of needs and resources of the future than is at present in evidence.

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NOTES AND NEWS

Architecture in 1947.

THE OUTLOOK for architects and architecture in 1947 is as uncertain as is Test cricket. Like Hammond, architecture has the men who can do what is wanted of them, but it depends on circumstances when they can produce their form.

In an article on page 37, the point is made that architectural opportunity in the next year or so will revolve largely round the housing news—opportunity, that is, to build as well as to design. There is nevertheless an enormous amount of work of all descriptions on the drawing board, and it may well be that some part of it at least may go forward before the year is out. A good deal of factory and industrial work is already under way, and only last month the Ministry of Education made the announcement that £24 millions worth of educational building work is scheduled for this year, subject always to labour and materials being available. Small though this is compared with the figure of £70 millions annually recommended by the Committee on Sites and Building Procedure, this announcement is highly encouraging and should offer opportunities to many architects who will have the benefit of the advice of a working party which will make recommendations on the technical details of the principles of school construction suggested in the 1943 Report on Standard Construction for Schools.

Making Use of Competition.

IT IS to be hoped that much of this programme will be put into the hands of private architects and that some substantial proportion again will form the subject of open architectural competitions. The new Education Act envisages many important changes in school curricula and, as a result, in school design, and some competitions would certainly help in setting a standard. Just at present there are many architects who would welcome as a change from bread-and-butter work, much of it war damage, the opportunity to design a new building which has a real chance of being put up shortly.

The same principle is applicable to other types of buildings which are needed, even if not in top priority. There is here an opportunity for getting ideas from the flint-and-steel of the competition system which local authorities and private building owners might well take.

Planning the Land.

THE Town and Country Planning Bill, 1947, was published on Wednesday, with the following principal objects :—

(1) to set up a new planning system to meet present-day requirements;
(2) to solve the problem of development values in land; and
(3) to provide Exchequer grants to assist local authorities in the purchase and clearing of land for the execution of plans.

Landowners are deprived of the right to build on their land except in accordance with planning requirements. Owners who lose development value under the measure will not be entitled to compensation, but £300,000,000 will be available to meet cases of hardship.

The Bill will be commented upon in a future issue.

No Exhibition in 1951.

IT WOULD BE A PITY, after our appetites have been well and truly whetted, if plans for the 1951 exhibition were finally shelved. There are probably many just reasons for such a decision—lack of labour and materials are obvious points—but we feel that the postponement from this very fitting date might well be caused by the over-emphasis laid upon its apparently necessary colossal scale. This "biggest ever" theme can obviously be overplayed; in fact, we had thought that it had been overplayed many years ago. But the clamour for size, frequently at the cost of quality, is a myth that dies very hard. No exhibition, or, for that matter, building, ever gained the admiration or support of the people merely on account of the acres it covered, yet an important clause in the Ramsden Committee's report on the 1951 exhibition was that it should or must exceed the size of the New York World Fair of 1940.

This was a pretty problem to set a nation only just emerging from the toils of war, with a huge and very necessary building programme to cope with. In fact, that clause, so to speak, may well have cooked the exhibition's goose. But a 1951 Centenary Exhibition could be achieved if the inevitable urge for the "gigantic" were kept in check. Wembley, Glasgow and New York were all giant shows, and although they all contained some good individual buildings—in the case of Glasgow and New York, many—the miles of concrete and tarmac roads can be utterably depressing and tiring to the visitor. The suggestion that the exhibition should "go up" has much to recommend it. The extra structural expense would be well balanced by the saving in ground work. But going up or going along is hardly the main issue involved. By strict control of the exhibit to be shown, only the representative and very best of their type should gain access. The scale of the exhibition could be pared down, vulgarity in size would be avoided, and no one with intelligence or taste would consider the exhibition inferior to its predecessors merely on account of its size. And what more fitting site for such a post-war exhibition could be found than on the south bank of the Thames—that bomb-scarred quarter that *is* London? A team of brilliant designers could incorporate the devastation to make the scheme at once a memorial and an inspiration for the future.

B.I.F. This Year.

IT is good to hear that the British Industries Fair will be with us again this year. Here is a chance for some really unified exhibition design. The "Britain

By gracious permission of H.M. the King.

ASCENSION DAY WITH THE BUCINTORO. BY CANALETTO. (From Windsor Castle, now on Exhibition at the R.A.)

Can Make It" show, although excellent in many ways, was hardly outstanding for a general coherence in design; the smaller exhibitions are more satisfactory from this point of view. The exhibition at the Tea Centre in Lower Regent-street is a little masterpiece of design and colour control. A unified design does not necessarily mean a dull regimented parade of the same units in various shapes, but a design linked together by a general idea which affects the planning and design of each exhibit. Much must have been learnt from the "V. and A.," especially, we hope, how and when to use bright colours, and the B.I.F. should be well worth a visit.

R.I.B.A. News.

THE R.I.B.A. Council have decided to hold the first post-war annual dinner at the R.I.B.A. on Friday, March 21 next. Particulars are shortly to be issued, and members meanwhile are asked to refrain from writing to the secretary for tickets.

The London Architectural Bronze Medal is to be reinstituted. For the current award only the period has been increased, to allow of buildings being nominated if erected within the 10 years ending December 31 last.

The Swiss Exhibition, which closed on October 26, broke all records of attendance at R.I.B.A. architectural exhibitions, just over 14,000 persons attending.

Mr. Anthony Minoprio will read the criticisms of the designs and drawings submitted for the prizes and studentships, 1947, at the general meeting on Tuesday, January 14.

The British Architects' Conference will be held in Dublin from June 11-14 next.

Grand Manner Painting.

IT was while viewing the King's Collection of Paintings at Burlington House, and especially a Canaletto, that the thought struck us that this generation of ours is surprisingly lacking in architectural painters. This seems more than a pity, for although photography has achieved a very high standard of perfection in architectural studies, the painter has, and always will hold, the trump card—his personality—which can be put into a picture and thus achieve a result far in advance of any photograph. William Walcot has gone, and Frank Brangwyn is in retirement. Sir Muirhead Bone and Sydney R. Jones are still at work, but they are etchers. John Piper and Edward Bawden could be said to be the leading architectural painters at the present time, but their work lacks (probably quite intentionally) the grand manner. Where are the sweeping canvases? Surely London and many other cities deserve to be put down in paint on a big scale. Admitted, large scale does not always make for excellence, but it would be exciting to see some really powerful painting again.

I.A.A.S. Building Science Convention.

THE Incorporated Association of Architects and Surveyors, in conjunction with D.S.I.R., are to hold a Building Science Convention and Exhibition at Caxton Hall, S.W.1, from January 13-18 inclusive.

Timber for the Olympics.

THE Finnish Olympic Committee has presented 20 standards of timber to the organising committee of the London Olympic Games.

Recent Appointments.

MR. ARTHUR RONALD CLARK, A.R.I.B.A., A.M.T.P.I., has been appointed County Architect to the County of Lincoln, Parts of Lindsey, County Council.

By gracious permission of H.M. the King.

THE SCALA DEI GIGANTI: a CAPRICCIO. BY CANALETTO.
(From Windsor Castle, now on Exhibition at the R.A.)

MR. THOMAS N. MITCHELL, B.Arch., A.R.I.B.A., chief assistant architect at Derby, has been appointed architect to Middlesbrough Education Committee at £800 per annum, rising to £900, plus cost-of-living bonus. He succeeds Mr. F. Mellor, who has taken up another appointment.

COMING EVENTS

Monday, January 13.

ROYAL INSTITUTION OF CHARTERED SURVEYORS (Junior Organisation). Ordinary General meeting. Mr. J. F. Wilson, P.A.S.I., to read a paper on "Current Valuation Problems Under the Compensation (Defence) Act, 1939." R.I.C.S., 12, Great George-street, S.W.1. 7.30 p.m.

INCORPORATED ASSOCIATION OF ARCHITECTS' AND SURVEYORS' EXHIBITION. "Science Applied to Modern Building Construction," Caxton Hall, Westminster, 10 a.m. to 7 p.m. daily, until January 18.

Tuesday, January 14.

ROYAL INSTITUTE OF BRITISH ARCHITECTS. General Meeting. Prizes, Deed of Award Criticism. R.I.B.A., 66, Portland-place, W.1. 6 p.m.

THE ILLUMINATING ENGINEERING SOCIETY. Paper by Dr. W. D. Wright, D.Sc., A.R.C.S., on "Colour in Illuminating Engineering." E.L.M.A. Lighting Service Bureau, 2, Savoy-hill, London, W.C.2. 6 p.m.

THE INSTITUTION OF ELECTRICAL ENGINEERS, SCOTTISH CENTRE. Mr. W. Fennell on "Fundamental Legislation for Electricity Supply to Consumers." Royal Technical College, George-street, Glasgow. 6.15 p.m.

Wednesday, January 15.

INSTITUTE OF WELDING (North London Branch). Lecture on "The Application of Welding to Steel Structures," by Mr. R. G. Braithwaite, M.Inst.C.E. Fyvie Hall, The Polytechnic, Regent-street, W.1. 7.30 p.m.

Thursday, January 16.

INSTITUTION OF ELECTRICAL ENGINEERS. DR. H. A. THOMAS, D.Sc., M.I.E.E., on "Industrial Applications of Electronic Techniques." The Institution, Savoy-place, W.C.2. 5.30 p.m.

Friday, January 17.

THE INSTITUTE OF SANITARY ENGINEERS. Sessional Meeting. Paper on "The Metropolitan Water Board," by Mr. H. Berry, M.P., Caxton Hall, Westminster, S.W.1. 6 p.m.

BIRMINGHAM AND FIVE COUNTIES ARCHITECTURAL ASSOCIATION. Mr. W. Haywood, F.R.I.B.A., on "Affairs of the Birmingham Civic Society." Royal Birmingham Society of Artists' Galleries, New-street, Birmingham.

Professional Announcements.

MR. R. FIELDING DODD has taken into partnership MR. AILWYN BEST, B.Arch.(Lpl.), A.R.I.B.A., and Mr. KENNETH STEVENS, A.R.I.B.A., and the firm will in future be known as MESSRS. R. FIELDING DODD, BEST AND STEVENS. The practice will continue at 21, Turl-street, Oxford.

MR. A. C. MARTIN, F.R.I.B.A., has moved his office to 19, Queen Anne's Gate, Westminster, S.W.1 (telephone: Whitehall 6535).

MR. NOEL D. SHEFFIELD, F.R.I.B.A., F.S.I., retired on December 31, 1946, from his partnership in the firm of Messrs. Stock, Page and Stock, of 18, St. Thomas-street, S.E.1, but will continue to act as consultant. MR. SHEFFIELD has also given up his appointment as Surveyor to the Worshipful Company of Haberdashers, which partners in his late firm have held for over one hundred years in unbroken succession. MR. TERENCE C. PAGE, F.R.I.B.A., A.A.Dip., has been appointed Surveyor to the Company, so that the continuity will remain unbroken. MESSRS. STOCK, PAGE AND STOCK have taken into partnership MR. JAMES MAITLAND, A.R.I.B.A., from January 1.

MR. C. A. F. SHEPPARD, L.R.I.B.A., has taken offices at 40, Union-street, Ryde, Isle of Wight, where he will be pleased to receive trade catalogues, etc.

MR. ERIC SANDON, A.R.I.B.A., has removed from Lord's Waste, Bredfield, Woodbridge, to 3, Market-hill, Woodbridge, Suffolk. (Woodbridge 558.)

From *The Builder* of 1847

Saturday, January 9, 1847

THE NEW HOUSES OF PARLIAMENT.—It appears that the ground line or plinth of the palatial Houses of Parliament is already below the level of extreme high tides. The difference of the rise of the highest tide before the Parliament Houses were burnt down to the last highest tide, viz., in December, 1845, is but 10 inches. The preceding high tide was in October, 1841. These two tides were very carefully noticed at the "Fox Under the Hill," Adelphi, the people there being up at the late hours both these tides occurred at; the difference was exactly one inch; the lines of elevation are painted in the tap-room there.

⁂ This extract is from a letter on "the gradual and regular rise of the waters of the River Thames," by T. Higgs. To-day, 100 years later, the House of Commons is again being rebuilt. An article on the foundation work begins on page 54.

"A PROSPECT OF THE CITY OF LONDON"

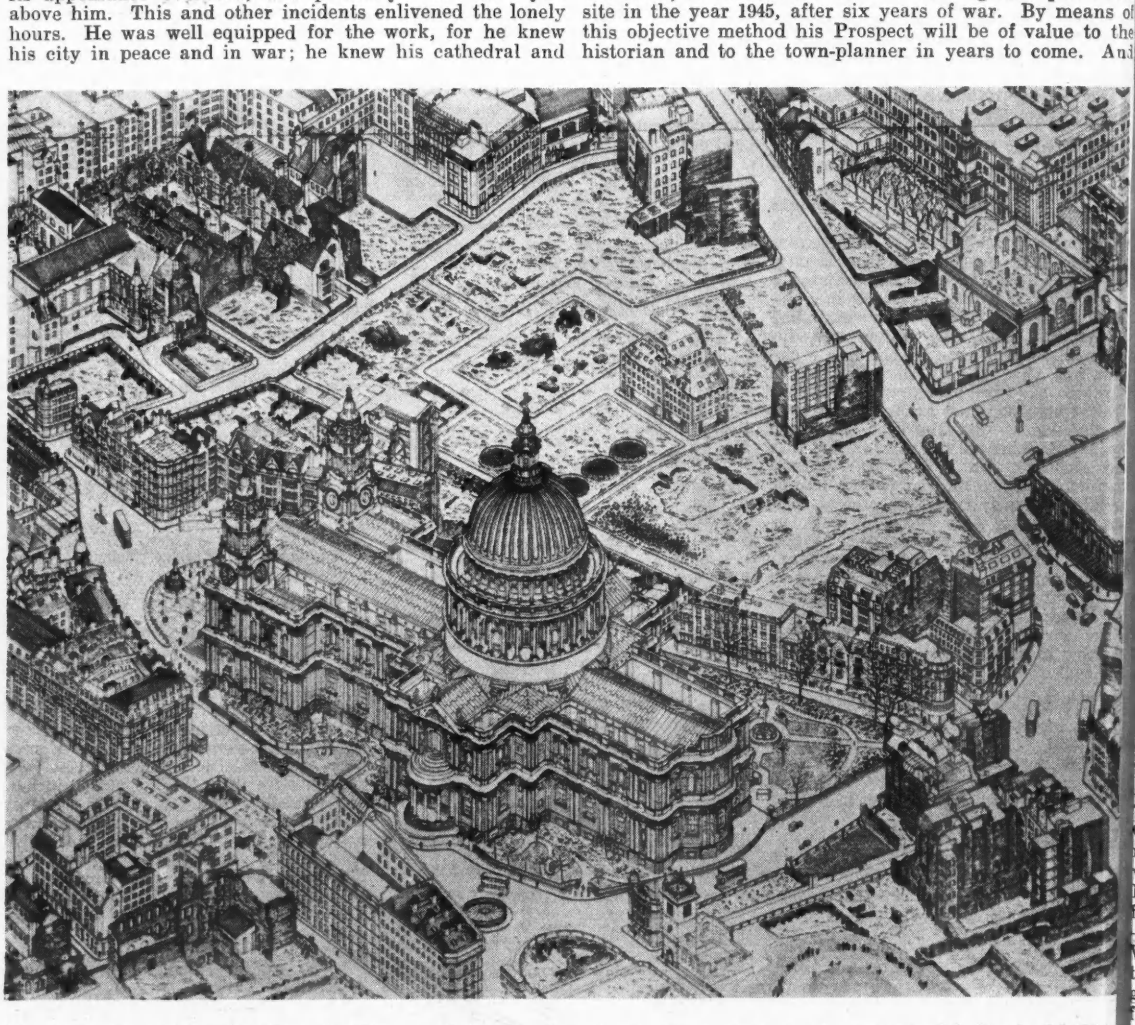
MR. CECIL BROWN'S DRAWING

A REMARKABLE drawing attracted attention last summer at the Royal Academy. It was a Prospect of the City of London from the south-east, showing the destruction caused by the King's enemies, and showing a number of interesting things besides. It was dedicated to the citizens of London, and one could see—standing in front of it at Burlington House—many a citizen tracing with his eye the line of some war-time patrol, or pointing to a post he had cause to remember, or looking for a building that might still be there or might not. The artist had set himself a task dangerous and infinitely laborious; had carried it through; and here in this little crowd before his picture was his reward. I once watched such a crowd, and while doing so recovered momentarily the feeling of those already half-forgotten days when Londoners were a family, a sort of provincial set, when they knew their neighbours in the streets and picked people up in cars; and good gossip went round the wardens' posts, and, by all accounts, wit returned to town when commerce had fled.

Out of such conditions this fine work was born. In its spirit the artist dedicated it to all true citizens; and in this spirit they must thank him and wish him well. It is no secret that he went at week-ends, and would climb alone to various vantage points to pursue his records, month after month. And not without adventures. Once he emerged on the top of St. Paul's Choir School, to get a view of some hidden enclave, when a flying-bomb made its appearance overhead, and presently "cut off" just above him. This and other incidents enlivened the lonely hours. He was well equipped for the work, for he knew his city in peace and in war; he knew his cathedral and his city churches. Up and down, he was on familiar ground. But the record is also a work of faith, because the damage was progressive, and no one knew whether the Prospect might not end after all in total destruction.

Those were the days when we made ill-informed jokes about secret weapons. Even as he drew at his Prospect, and up to the last weeks, there had, in fact, brooded over this expensive square mile of earth an indecision of the Fates. Even the high gods did not know which was the side that had the secret of destruction or could use it first. The contingency up to the last was that Prospect and prospector alike should find themselves blown into little bits, a contingency unknown to Hollar or Leake or Ogilby. It was, indeed, Hollar's view of London after the fire that put him upon the idea. The first sketches were made in 1942 after the first blitz, and were continued with increasing concentration during the ensuing years.

The drawing is of inconceivable fineness, in pen and ink. There are no washes or shadows. This means that the considerable texture is given, as it were, by the materials of the buildings. A diffused light prevails, and there is nothing to distract from the act of pure examination. It is deliberately objective and impersonal, as though the artist felt that this was the right method for the accurate record as distinguished from the picturesque. He was not merely giving an impression of roofs. It was to be a record of the architecture of the city of London. Thus, and not otherwise, stood such and such a building on a particular site in the year 1945, after six years of war. By means of this objective method his Prospect will be of value to the historian and to the town-planner in years to come. And



Photograph of part of Mr. Cecil Brown's "Prospect of the City of London." The complete drawing measures 8 ft. 9 in. by 6 ft. 3½ in

as a foil to the circumstantial side the artist has also acknowledged the symbolism which has always been a privilege of the topographical artist, to introduce into the sky coats of arms, inscriptions on scrolls, and some noble *nonchalant* figures. Here we have Saint Michael treading down the eagle and Saint George effortlessly slaying a very handsome dragon. It should be remarked that these figures are much more impressive on the original drawing and to the larger scale.

The Prospect gives in *minuscule* the water-standings, the shorings and under-pinnings; and gives particularly the state of the city churches before they shall be rebuilt. Many of these details of garrison life are worth a farewell glance. There are firemen who will recognise the delightful little garden made by them just opposite Goldsmiths' Hall; members of the Home Guard will recognise their rifle range in an exposed basement in Aldermanbury: and on the original drawing artists may here and there be discovered (with a magnifying glass) at their easels amid the ruins. Then there are the freaks due to blast, such as the 30 ft. of brick stack fallen like a monolith and now standing nearly upright in the precincts of Guildhall. Here one can look down into the roofless Council Chamber. Or again, one can watch a contest on the running track off Watling-street; or seem to explore the waste land near Cripplegate, now blossoming with rose-bay and ragwort, where the bird watcher has often caught sight of the redstart's tail, or has seen a hawk dive-bombing at sparrows.

The areas of the major devastations can be clearly seen. They are that north of Cheapside; the area between Newgate and St. Paul's; and that between Cheapside and Queen Victoria-street. First of all it is interesting to see how some of the old city outlines have reappeared. Perhaps the most interesting single item is the view of the angle bastion of the Roman Wall near Cripplegate seen from the inside (as though on Agas or Wyngaerde), and one might note that a visit to this spot reveals the basement floor which was perhaps the ground level of Roman London. The line of the wall, with the "town ditch" beyond it, can be followed nearly to Aldersgate and the re-entrant angle there. From here to Newgate, though the wall is gone, one can see that old buildings like Christ Church, and modern buildings like the Post Office, are aligned with the ghost of the wall and not aligned with Newgate-street. From Newgate to Ludgate the wall was dead straight. It forms the boundary of Amen Court, and can be distinguished in that position on the Prospect. Its general position can be read from the line of Ave Maria-lane and Warwick-lane, which ran a little behind it, and are here laid bare along their whole length. From Ludgate the wall did not run parallel to Ludgate-street but inclined to the left along a line to be traced here as a street running into St. Paul's Station.

Also it is interesting to trace the lines of the old east-west thoroughfares. North of Cheapside there is the sinuous line of Gresham-street, formerly a thoroughfare to Aldersgate from the central markets. It was rechristened by the name of Gresham-street but was originally a series of lanes —Cateaton-street, Ladd-lane, etc., and its composite nature can be seen here. Paternoster-row, Knightrider-street, Thames-street, Watling-street are also distinguishable—they that have been supplanted by upstarts like Cannon-street and Queen Victoria-street.

But it is to the north and south streets that one should look for the ghost of the old city. When John Ogilby made his map of London (published *c.* 1678) as a survey to assist in the plotting out of land in the City after the fire, he showed river craft of all kinds clustering along the "keys" above London Bridge and thick as a swarm of bees at Queen Hythe. Along the front can be seen the old "keys" or "kays," such as "Stylyard," "The Three Cranes," Black Friars, Wood Wharf; and also (on Ogilby's map) any number of "New Keys" are shown. Old London was supplied from these wharfs, above as well as below London Bridge, and goods had to be transported from the frontages to the markets. The markets were not far to seek —Cheapside, Poultry, Bread-street, Milk-street, Fish-street, Wood-Street, Honey-lane Market, and the rest. But to get to them meant north-south traffic. And, in addition to goods, there were passengers, landing from innumerable ferries and tilt-boats, using the river as a chief means of communication, and proceeding in Pepysian style towards St. Paul's, or Cheapside or Guildhall.

Now Ogilby shows innumerable little lanes between the wharf buildings leading to Thames-street—the first east-west thoroughfare. Beyond Thames-street are the principal north-south streets beginning with an incline and called "hill"—Dowgate-hill, New Queen-street (then recently built to give direct access to Guildhall), Bread-street, Garlic-hill, Friday-street, etc. Turning now to Brown's Prospect, we see Queen Hythe, and note that it is empty of shipping, partly owing to the removal of barges during the war. But the dividing up of the wharves by little lanes is clearly seen. We see also the slight incline beyond Thames-street that was once Bread-street-hill. In Ogilby's day the line from Queen Hythe to the Cripplegate was along Bread-street, across Cheapside, and along the Wood streets. The whole of this important north route from the wharves to Cripplegate is shown clearly on Brown, for most of it is devastated. It is interesting that Wren's plan for London shows a close grid of north-south streets from the wharves to Cheapside, and shows also one wide street going straight as a die from Queen Hythe to Cripplegate. And here history repeats itself, for one of the new proposals by Dr. Holden and Mr. Holford in their New Plan for the City is just such a north route to Cripplegate from their New Square, with provision shown for an extension south to the embankment near Queen Hythe.

And turning thus from the past to the future, the site for the New Square, likewise proposed in the New Plan for the City at the fork of Queen Victoria-street and Cannon-street, lies just below us in the foreground of Brown's Prospect. The Prospect shows that if the New Square were placed west of the fork instead of predominantly east, as shown on the published plans, it could be almost wholly constructed on devastated land. But Brown's Prospect also shows the angle view of St. Paul's, which follows so strongly upon the argument of the two distinguished planners for the New Square. "We should like," they say, "to leave an open view of the south front of the cathedral, the great dome and the western towers. This view and this feeling of spaciousness is, in our opinion, one of the most striking and most cherished inheritances of the devastation. The perspective on foot, or from a bus, proceeding along Cannon-street, is constantly changing and constantly impressive—particularly when the sun, or a good light, picks out the light stone, the form of the dome, and the gilt cross above it."

Nothing could better illustrate the rationale of these recommendations, and the measures necessary to secure them, than the Prospect before us. On Ogilby's survey St. Paul's was plotted from Wren's drawings before it became the familiar *presence* we know to-day. That London was rebuilt on the old plots, so accurately surveyed by Ogilby, was one of the disasters, and the cathedral site was, in fact, shut in before the building of St. Paul's was complete. To-day the noble church—miraculously preserved—stands uncurtained on this side and on that; and we have seen it as no past generations have ever seen it. But can we hand on anything of that vision? Those who follow us will see clearly enough from this Prospect the opportunities we have taken or failed to take.

H. BAGENAL.

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LOOKING AT 1947

NEW YEAR MESSAGES FROM LEADERS OF THE BUILDING INDUSTRY

SIR LANCELOT KEAY, K.B.E., President of the R.I.B.A.

The Royal Institute of British Architects

FOR the next year at least the building industry will be restricted in its freedom of action by the controls rendered inevitable by the shortage of materials and the establishment of priorities. Because standardisation and uniformity in design make for speed in production, both will be tolerated so that houses and the other buildings essential to the life of the nation may be erected as rapidly as possible. But mass production must tend towards the suppression of every art which thrives upon the ability of the individual to express himself in his own way.

We shall be wise to regard this period as one to be used in preparation for the greater work ahead, and in it to study the uses of new materials and new methods of construction and practice recommended by those who have given much time to this consideration in the war years. But we shall do well to remember that some of the light and airy theories may need to be tempered with the knowledge acquired by experience which years of practice alone can make available.

The austerity which will still be necessary when controls have ceased may restrict our freedom in design, but we should not ignore entirely our great tradition in order to follow those who seem to see in regimentation the hallmark of intellectualism.

I would suggest to those who practise the art of architecture that in this period of preparation or transition they refresh their minds by reflecting upon some of the achievements of those who, in easier times, helped to build up our great tradition, and from this tradition evolve a style worthy of our age. And I commend to the urgent attention of those of the building industry the consideration of means of increasing output and reducing the present indefensible high cost of production. Unless this can be accomplished there is little doubt that the amount of building and rebuilding, which is so necessary, will have to be curtailed.

The standard and extent of the future building in this country is the responsibility of the architects and the industry. May we look forward to the year ahead with some justification for optimism.

LANCELOT H. KEAY, President.

Quantity Surveyors' Committee (Royal Institution of Chartered Surveyors)

THE picture which comes to the mind of the quantity surveyor as he deals with present-day contracts is that of the good ship "Building Trades" carrying a terribly top-heavy deck cargo of licences and controls, and with a number of super-cargoes (official) who have very nearly pushed the captain and mates off the bridge. I should like to take this analogy further but must content myself for the moment with saying that I am satisfied that the ship is sound enough and will weather the present storms and fogs if, but only if, the captain and his officers, by which I mean, of course, the builder and his foremen, are allowed to navigate and steer their own ship.

The tendency to use elaborate and ambiguous contracts is also making us all into sea lawyers instead of surveyors, and the builders particularly to look for their profit by claims and argument instead of job management.

In Australia, I am reliably informed, the cost of building has not increased by more than 25 per cent. over 1939—and this is attributed to control of materials only. There must obviously be some control of material for a period, but it seems very clear to many of us that external control could well be limited to allotment of a few main key materials; where the material goes the labour will follow. If this allotment could be made from a high level, and all other controls jettisoned or reduced to the minimum, this would, I believe, soon clear most of the present disorganisation.

Instead of trying or advocating all sorts of fancy remedies I wish that authority would study the Central Council report on Placing and Management of Building Contracts. It is high time to "cut the cackle and get to the horses."

H. J. VENNING, Chairman.

The Incorporated Association of Architects and Surveyors

1947. What will it hold? To me perhaps the darkest shadow over the future is the steady advance in building costs, for unless this cloud disperses I can see little chance of that full maturing of building activity which this country so badly needs. Under-production—the greatest single enemy to national recovery—is making its unwelcome presence felt in our own industry. To the causes I need not here allude; they have already been well exposed in leading articles in *The Builder*.

We all know that economic productivity in any industry depends on the efficient working of every part of its structure, and on the right and harmonious relation between all the parts. Between the Government and the industry there exists at the moment an uneasy partnership, and I believe that a new approach is needed if we are to get the best out of the building resources at our command. Both sides—the Government and the local authorities on the one hand, and the building professions and the industry on the other—must be inspired by a spirit of full and frank co-operation. Policy, we are all agreed, is for the Government; but in giving effect to that policy they must heed the voice of practical experience. If, as is possible, certain reforms are desirable in the building industry, it is for the industry itself to carry them out, for the workings of the industry in all their complexity can be understood only by those who are responsibly engaged in it. I reflect more and more what a pity it is that our side of the partnership—the professions and the industry—has no single voice to express authoritatively our point of view.

The building professions, through no fault of their own, are, I believe, the principal sufferers from this lack of reciprocal trust and understanding. The architect is hungering for his real work. A diet of war damage repairs and repetitive and restricted design is poor food for the creative appetite. Too often, moreover, the officially employed architect is unable to work in accordance with his æsthetic conscience. If we want great architecture the architect must be responsible and not subordinate in his own field. The quantity surveyor is at last enjoying the first fruits of his great contribution to building efficiency in this country; but he has still to fight for the full recognition and reward which is his due. The services of the land surveyor, I am convinced, are still inadequately employed. An expert survey of every site is fundamental to sound building development. The mistakes that arise from amateur "surveys" are irreparable. I am optimistic about the future of the building professions, but we must fight for it—no one else will fight for us. And in that fight we must make greater use than we are at present making of our professional associations to represent both our own interests and the cause of good building. Nobody, in these days, can afford to remain "unattached."

W. FORBES CAMPBELL, President.

The Association of Building Technicians

IN 1947 the building industry still faces as its major task the solution of the housing problem. The achievements of 1946, great as they are in comparison with the first year of peace after the 1914-18 war, have been small

Photograph by S. W. Newbery, President, Institute of British Photographers.

PROSPECT OF LONDON FROM THE VICTORIA TOWER, HOUSES OF PARLIAMENT. This photograph, specially taken for *The Builder* in August last, shows the London scene looking towards St. Paul's. Beneath the Clock Tower of the Houses of Parliament can be seen the cleared site of the Lower Chamber now about to be rebuilt.

indeed compared with the requirements. In the field of planning, it is true that, in spite of bitter opposition, the Minister has prepared the machinery by which an immense programme could be realised; the plans which, although falling far short of the standards expected, are again better than we have ever had before, are mainly ready; only on the site itself delays and shortages have betrayed the people's hope.

The overall lack of materials, and, in the earlier part of the year, of manpower, have of course been serious contributory factors, but these could have been greatly minimised had the industry itself been a better instrument. Organisationally and technically it is backward and inefficient. Wages and conditions are still inadequate; welfare is given lip service only. The licensing of over 50,000 new firms, most of them very small, in the last 12 months, however desirable from other points of view, must still further retard the long overdue reorganisation of building production. The major weapon in our hands, factory production (prefabrication), has been grossly neglected where it has not been actively opposed. Governmental talk of a "Military Operation" has dissipated, as it began, in hot air.

Unless the industry itself, using its technicians to the full and training many thousands more on modern lines, completely revises its technique of production, both in the sense of building organisation and in the sense of building methods (particularly mechanisation), it will have to be organised from outside and no one will relish that. Whether it is capable of setting its own house in order inside its present set-up of private enterprise, as the mining industry could not, only experience can teach.

For a long time the building industry has occupied, with agriculture, the most backward sector of British industry. Faced with the appalling need of our people we can no longer tolerate this position. We are nearly at the half-way mark of the twentieth century. Now is the time to equip ourselves with twentieth-century technique, whatever the cherished illusions which must be discarded.

KENNETH J. CAMPBELL,
President.

Building Industries National Council

HE would indeed be a churl who would not wish the building industry a better year than that which has just passed. With true British tolerance, however, one may say that perhaps it might have been worse. Its chief characteristic was its degree of frustration; evidence of this fact was brought out very clearly in the general views expressed at the Third Building Congress in November last. Industry (like humanity itself, of which it is but an expression) develops best in a progressive but ordered freedom. If the degree of order becomes too stereotyped then progress, whether expressed in physical or monetary terms, falls short. There can be no doubt that, since the war, the building industry of this country has, by the process of attrition of the three forms of public administration—central, regional and local—now controlling building in all its phases, become as atrophied as would any human incarcerated to a similar extent. In the recognition of the extent to which human aspirations centred in industry have in the prevailing circumstances become atrophied lies, in my view, the message for the New Year, a message which takes the form of urging the industry to recognise its clear need for much greater practical cohesion and co-operative effort, both in its own and the national welfare, or indeed take the consequences.

To the experienced public administrator who is charged to consider these needs and who sees far too many bodies representing similar but individual interests, the building industry is potentially a strikingly virile but somewhat disintegrated industrial unit from the point of view of common and concerted purpose. The public importance of the industry has never been so high as it is to-day, and its ramifications, scope and economic repercussions never so wide, yet because of this apparent disorganisation measures of control and instruments of additional administration are necessarily imposed quite extraneously to the needs either of the industry itself or of the national economy.

This position tends always to bring in its train political concepts where only industrial and economic considerations should guide and rule. The future aim of the organised elements of the industry should therefore be more and more to strengthen that corporateness inherent in and essential to a number of creative functionaries (from the architect to the labourer) of which the building industry is a pre-eminent example, and the maxim should be "organise your common purpose, or perish as a free-functioning industry."

FREDK. W. PURSE,
President.

National Federation of Building Trades Employers

IN a Christmas message to my own members last month I suggested that 1947 would be a year of more materials—with the possible exception of timber and steel—more labour, less form filling, fewer controls, and therefore more progress. That, in a word, is my general forecast for the New Year.

In addition, the Government has promised us a "programme" to which to work. That, in itself, will be an aid to progress if it is based on the facts as they are, or are to be during the year, and not on ideological theories which the practical man rejects. We shall, of course, whatever the programme, do our best to carry it out, and I am very hopeful that the Minister of Health, who has increasingly come to appreciate the value of the advice we have been able to give him on so many of his other problems during the year which has just closed, will seek our co-operation in advance, and base his programme—which is not, he has been careful to emphasise, a "target"—on the realities of the day.

With more labour and more materials available, production on the job should automatically improve to a considerable extent. But with all the mechanical aids to help us which our war-time experience has produced, we still have a long way to go before we reach the pre-war output per man which we should all like to see. To bring output back first to the 1938 level and then to improve it will, therefore, be our key problem. Both sides of the industry are pledged to assist in its solution, and I am satisfied that with co-operation and good will we shall find a way of destroying one of the greatest hindrances to a reduction in building costs, vital to the country and vital to the building industry.

Housing for the people will, of course, remain our first concern, but Mr. Bevan has said that by next autumn he hopes progress with the building of small houses will be sufficient to allow the building of bigger houses. I trust that hope will be realised. I trust, too, that when it comes to the building of these bigger houses we shall have greater scope for diversity in design, and that the individual occupier to be, whether owner or tenant, will be permitted some share in the actual planning of the home of his dreams.

W. H. FORSDIKE,
President

National Federation of Building Trades Operatives

THERE are many signs that the building industry is getting into its stride. Though many problems of material supplies and skilled manpower still hamper progress, the New Year should witness the powerful emergence of the industry's enormous productive capacity. The great need now is to introduce the most systematic organisation and the best order into its management and conduct, its work and service, and to imbue all its working personnel with energy and enthusiasm.

All concerned with the practical side of building must now think big and act big if the building industry is to respond to the building requirements of this day and generation in accord with its finest architectural traditions. To give our people the homes, schools, industrial and commercial buildings so imperatively wanted; to refashion the old towns and cities and build new towns and cities—in brief, to rebuild Britain for the New World into which we have been ushered—calls for broad vision, boundless and passionate conviction and war-like resolution and courage.

We must all—employers, professional men, operatives—discover within ourselves the faith and action which will move mountains, perform miracles. Through 50 centuries of practical endeavour, of trial and error, of experimentation in methods and materials, the building industry has evolved the manner of building the homes and communities of mankind. Now is the time to demonstrate its fullest creative power and constructive ability. To do this it is vital to grasp the realities of

the changed conditions in industrial and social life. Full employment, for instance, implies the provision of fresh industries, new wages, hopes and ideals for the workers on the building jobs. The evil driving force of the menace of mass unemployment has gone—and gone, we trust, for ever.

We live in a new era. Let 1947 mark a further growth of the spirit of fraternity and co-operation among all who build. Co-operation is the human basis of all building. It will only be to the degree that spirit is generated, fostered and developed that the homes and towns will rise in enduring worth, dignity and beauty.

J. W. Stephenson, President.

Federation of Associations of Specialists and Sub-Contractors

WE face this New Year with a confidence which, more sober than that of last year, gives us therefore more real satisfaction. Twelve months ago, we regarded our difficulties as the product of the war; and, that prime cause having been removed, we were inclined to think that they would melt away. To-day we know that peace has its difficulties no less than war, and that the future must be built on a foundation to which all engaged in the industry must contribute. The past year has seen a beginning.

The first gift that I hope the New Year will bring is stability of conditions. We want to look forward and calculate with some expectation of accuracy the costs incidental to our contracts. Secondly, we hope for a continued improvement in the supply and range of available materials and in the distributive organisation. Thirdly, the burden of paperwork and form-filling must be relaxed. It is difficult to believe that there can be drawn from it to the national profit a benefit to offset its cramping effect on the individual firm.

Lastly, I hope for an appreciation on the part of those responsible for national policy that housing can never absorb the whole industry and that, if we are to compete successfully with the task of national rebuilding which is planned for the period after the immediate need for houses is satisfied, those sections of the industry not concerned with housing must be given now the materials and the opportunities necessary to ensure in the future the trained craftsmen, improved design and scientific organisation that will be required.

Given these factors, the good start we have made will lead to great things. In that spirit I wish the industry and, in particular, all specialist firms, the best of New Years.

J. L. Musgrave, President.

National Joint Production Council

EFFICIENT production which will reduce housing costs is the chief problem facing us this year. In a sense it is a perennial problem. But to-day it forces itself on our attention as an industry vital to the national recovery, just as it forces itself on the nation as a whole. The Government, the employers' organisations and the trade unions are all fully alive to it. All demand maximum output as the essential forerunner of any real and permanent improvement in the standard of the life of the people.

In the building industry we have been working on the problem for the whole of the past year, and now some 20 Production Officers are at work, seeking out the causes why production is not as good as it should be—for it is not—and suggesting remedies. Many of the causes are obvious: many of the remedies seem equally clear. But the case is not met by saying "work harder" to the operatives or "your business is not efficiently run" to the employer. Would that it were all so simple.

I have great hopes that in the coming months we shall see a real increase in output per man in the building industry. But if we are to get it both sides of the industry have to co-operate. At present they are doing so wholeheartedly, and while there are differences of opinion, differences of emphasis, in all the regional committees at work throughout the country, there is a general desire to get on with the job. The job is, in a sentence, to get back first to the 1938 level of production (that was the gentlemen's agreement between the employers and the operatives when the last wage increase was agreed by the National Joint Council last January), and then to improve on it.

The Production Officers, all practical men with experience of the building industry, bring us the facts: we sift them. Between us we are determined, and here I feel I can speak for the operatives as much as for the employers, to deliver the goods. For high output is vital if the building industry is to enjoy the confidence of the people.

G. W. Buchanan, Chairman.

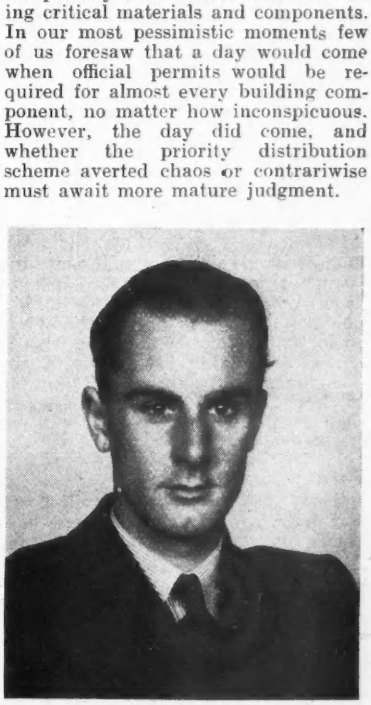
HOUSING TRENDS, 1947

By EDRIC NEEL, M.A., A.R.I.B.A., A.M.T.P.I.

HOUSES and more houses is the 1947 target. Though there is a healthy difference of opinion as to the methods and agencies whereby housing can be achieved, the objective remains unquestioned. Therefore, this brief review of 1946 programme and 1947 potentialities.

Labour and Materials.

The target is clearly defined. What of the ammunition, the labour, the materials? 1946 was bad as regards materials, so bad that rationing, already implicit in the normal licensing procedure, had to be extended by the priority distribution scheme covering critical materials and components. In our most pessimistic moments few of us foresaw that a day would come when official permits would be required for almost every building component, no matter how inconspicuous. However, the day did come, and whether the priority distribution scheme averted chaos or contrariwise must await more mature judgment.



EDRIC NEEL, M.A., A.R.I.B.A., A.M.T.P.I.

In 1946, although materials were tight, labour by comparison was readily available. In 1947 the position is liable to be reversed. To those with some understanding of mass production the figures recently quoted by the Minister of Supply show that the flow of building components has at last commenced in earnest. Time alone will show whether the flow is balanced or whether there will be overwhelming surpluses in one direction and severe shortages in others. But it is a fair guess that in 1947 the building labour force may have difficulty in absorbing the components and materials which will be available. Should the event prove that 1947 is a year of building labour shortage, then it will be difficult for the Government to resist the mooted increase in building labour rates. In fact, all things considered, it looks as though building costs in 1947 will achieve a new "high."

New Houses.

With the exception of the Aluminium House, 1946 sees the virtual completion of the manufacturing part of the Temporary Housing programme; distribution and site erection will, however, probably continue until mid-1947. The Temporary Housing programme — labelled "temporary" on political rather than on technical grounds—has been much maligned, but the fact remains that of the 110,000 new post-war houses erected to October, 1946, 70,000 were so-called "temporary"; no mean achievement, and one which was largely carried through by the building and ancillary industries. What of the houses? Unprepossessing exteriors, unimaginative siting, but to date enthusiastic tenants.

In the field of permanent housing, 1946, though disappointing as regards houses ready for occupation, saw the completion of much valuable groundwork. Many alternative methods of house construction were tried out and were then approved for subsidy. So far, the alternative method houses have produced far fewer permanent

houses than traditional methods, but new developments have always made slow progress in their early stages, and 1947 should see the alternative method house making a really substantial contribution.

Standards.

The Minister of Health has adhered uncompromisingly to the recommendations of the Dudley Committee, with the result that the post-war three-bedroom house is larger by some 200 sq. ft. than the comparable pre-war house. At the same time, the post-war permanent house compares unfavourably with the temporary house with regard to internal equipment. This let-up on the standards put forward in the M.O.W. and M.O.H. Housing Manual is obviously due to the high cost of building, but there is ample justification for the official view that it is more essential now to provide space rather than equipment. If the space is there, the equipment can be added later when appropriate materials are in freer supply. And while on the subject of space, a special plea that the 1947 house should include, among other outbuildings, a Hobbies Shed, however humble! Increasingly, craft skill, with its deep personal implications, must become a private relaxation rather than a business proposition.

Prefabrication versus Site Building.

The non-traditional houses approved for 1947 erection incorporate a lesser degree of prefabrication than was implicit in the Temporary Housing programme. There are, however, Government-sponsored developments in the field of permanent housing which promise a full deployment of prefabrication technique. It remains to be seen whether 1947 will establish total prefabrication as an economic competitor with more traditional methods, or whether prefabrication and traditional building will gradually merge. 1947 will give us some clues, but the issue must largely depend upon the standards demanded by the people and implemented by the Government. Any substantial rise in housing standards and/or in the cost of building labour must weigh the scale in favour of factory production techniques.

Consumer Requirements.

If in 1947 we can look forward to much that is new in the technique of house construction, we can also look forward to an interim report on the experimental schemes built at the direction of the Ministry of Works Scientific Advisory Committee. Here, the special performance and equipment standards recommended in many reports, official and otherwise, are being tried out on actual people. Just as in glasshouse design the test of excellence is plant growth, so in these M.O.W. housing schemes the incidence on men, women and children of applied research is to be tentatively evaluated. No praise can be too high for the initiative which has sponsored these large experiments.

Conversion.

Quite apart from new houses, 1946 has seen the execution of conversion works on a very large scale, both by local authorities and by private enterprise. Houses, both large and small, in every part of the country, have been converted into flats and maisonettes. The process is logical and inevitable. Many parts of our great cities are long overdue for demolition, but it will be many years before labour and material can be made available for rebuilding. To-day every inch of covered space must be intensively utilised. So, while major rebuilding is, for the time being, out of the question, the conversion process serves not only to create new dwellings, but to arrest the decay of existing structures. In 1946 operations have been concentrated upon the most easily convertible dwellings. In 1947 it may be possible to tackle the more difficult and costly conversions.

Plans.

The houses erected in 1946 were, by and large, three-bedroom, narrow-frontage types, with plans based on those recommended by the Dudley Committee. In these plans, while the disposition of the first-floor bedrooms remains unchanged, alternative room arrangements are possible on the ground floor—separate kitchen, dining-kitchen, living-room with dining alcove. Each of these plans has been very carefully worked out, and each makes the best possible use of the area available, but there still remains the criticism that once the plan type has been decided, the various tenants must, until the house be demolished, adopt the way of life indicated by the plan. In other words, if the house was originally built as a dining-kitchen type, then in perpetuity the tenant must dine in the kitchen.

With modern building technique it is, of course, possible to make the partitions which define the ground-floor rooms of non-load-bearing and unit construction, so that, in theory, alterations to meet the tastes of successive tenants involve minimum effort. A more realistic solution, however, would be to provide in the partitions such features as double doors, hatches and glazing, so that simply by opening or shutting doors, the tenant can, at will, create the desired room pattern and sequence. After all, even if the house does not change hands during its lifetime, the occupant may at any time wish to throw the dining area in with the kitchen, and shut both off from the living-room, and at another time may wish to throw the dining area in with the living-room, and shut both off from the kitchen. 1946 has sown the seed of plan flexibility; perhaps 1947 will see the flower.

Flats.

There has been little multi-storey flat building in 1946, but many contracts have been let and completions can be expected in 1947. Individual flat plans show few variations on good pre-war practice, but there is an all-round improvement in layout and in the provision of those communal facilities which add so greatly to the amenities of flat life. Tecton's schemes for Finsbury show the trend; the free siting for air and sun; the open planning of the ground floor and the provision of amenities such as drying rooms, pram shelters, nursery schools; also the highly developed arrangements for heating, hot water and refuse disposal. As regards constructional methods, the pre-war Quarry Hill-Mopin still remains outstanding, but soon, no doubt, the light external walling and internal partitioning techniques, developed for the alternative method and prefabricated houses, will be applied to the non-load-bearing elements of multi-storey flat construction. For load-bearing members nothing has yet come forward to replace the steel or concrete frame.

Layout.

The virtual cessation of house building during World War II gave building technicians a breathing space for re-assessment. This re-assessment resulted in agreement on all sides that the future housing pattern should be based upon mixed development within the neighbourhood unit. Not only must the various income groups be mixed, but within each group there must be different types of dwelling to suit variations in age, taste and family size.

Although all replanning schemes show neighbourhood units as organic cells within the neighbourhood plan no complete neighbourhood unit has been finished in 1946. It is, therefore, too early to assess, even in the most hesitant fashion, whether practice is establishing the validity of theory. 1946 has, however, seen a most interesting development of the neighbourhood theory—the "Reilly Green"—which gives intimate scale within the neighbourhood unit structure.

Responsibility of the Architect.

Within the framework of the Town Plan, which may or may not have been prepared by an architect, there is every indication that it is the architect who will be responsible for the design of the neighbourhood unit. It is a heavy responsibility and one which demands a specialist organisation for successful fulfilment. The specialist alone is not enough. The problems are spread over too wide a field. After all, the success or failure of a neighbourhood unit will be reflected in the daily lives of future generations, and if anything of enduring value is to be achieved, then landscape gardening, the repair of cistern valves, the irresponsibility of the child are all vital factors in the original design. In a word, the architect must accept his personal limitations and build up an organisation of specialists around him. Thus, and only thus, can he fulfil his function. A certain humility is necessary in a matter of such importance.

COMPETITION NEWS

Proposed Bessingby Housing Estate.

In a paragraph under this heading in last week's issue it was incorrectly stated that particulars of this competition are obtainable from the Borough Engineer, Town Hall, Hull. The sentence should have been: "Particulars from the Borough Engineer, Town Hall, Bridlington." We regret the error.

The Exterior of 35, Cliveden-place, S.W.1.

A REGENCY HOUSE

Converted for his own occupation by

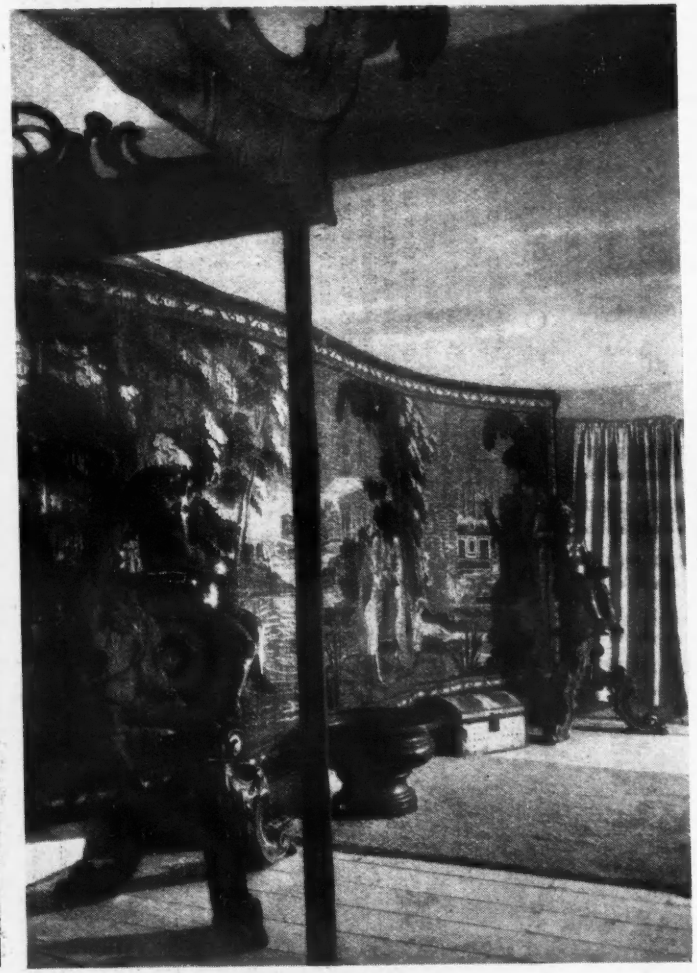
OLIVER HILL, F.R.I.B.A.

"APPEARANCES ARE DECEPTIVE," AND NO ONE would conclude from the simple, unobtrusive front of this Regency House that its interior held such surprises. The accompanying illustrations show that in the hands of a good architect a transformation can be made of a house of this period without destroying its character. A very large number of similar houses are to be found in London and elsewhere, and many are capable of conversion. Whatever the cost of such work, it is likely to be less than the cost of a new house. Chelsea in particular has recognised the value of preserving its old houses, some of which are quite small, and numerous interesting and varied conversions have given the locality an outstanding charm and character.

Bret Harte wrote, "Show me the back windows of a man's dwelling and I will tell you his character. The rear of a house only is sincere." There may be some truth in this, but it clearly does not apply to the Regency house at 35, Cliveden-place, S.W.1, which Mr. Oliver Hill, F.R.I B.A., has converted for his own occupation in a consistent manner.

The entrance vestibule has been made by enclosing the porch from which the stairs lead down to the service quarters. A glazed door opens directly into the dining-hall with another glazed door opposite on to the long garden.

Living-room Interior, with mural by the late Eric Gill.



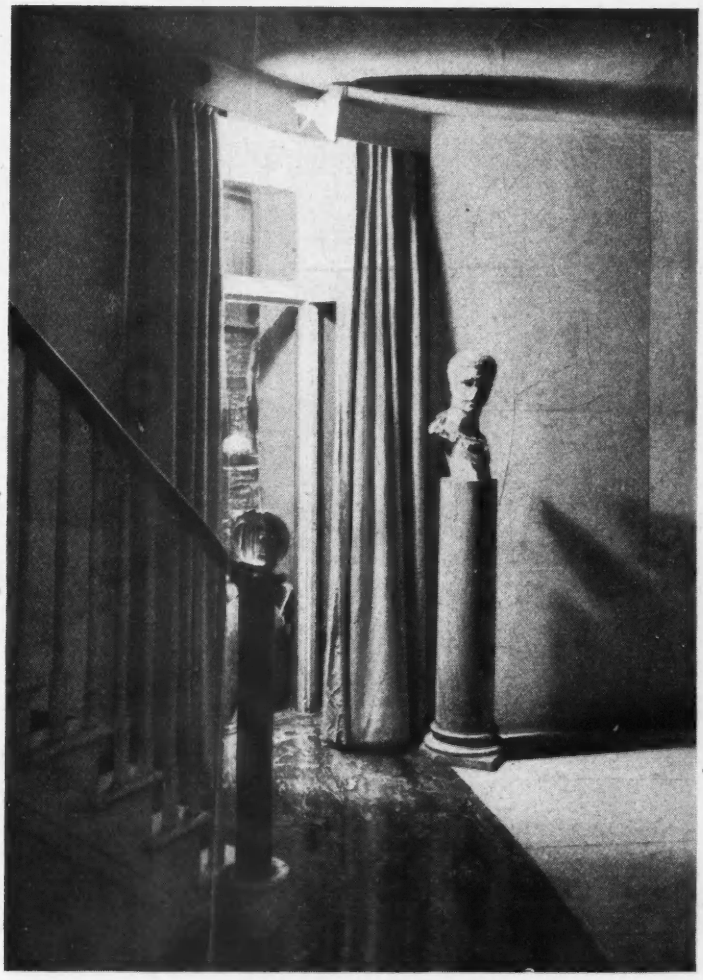
35, CLIVEDEN-PLACE, S.W.1. Two views of the Bedroom. The illustration on the right shows part of one of the Mortlake Tapestries.

Dining-hall, seen from Stairs.

The dining-hall and staircase have been thrown together by removing the partition from the stairs. The floor here is partly of Ashburton marble and partly Perrycot Portland stone. The walls are entirely of the latter material with incised carvings by Eric Gill extending over the whole of two sides. The third wall is hung with coarsely woven ivory-coloured silk curtains from floor to ceiling, while the fourth is occupied by the curving staircase. The ceiling is painted a deep orange; the table and side table are also Perrycot stone and the chairs are upholstered in leather, alternate yellow and tan colour. A service lift which lets down flush with the floor is arranged at one end of the table. This is shown in the view.

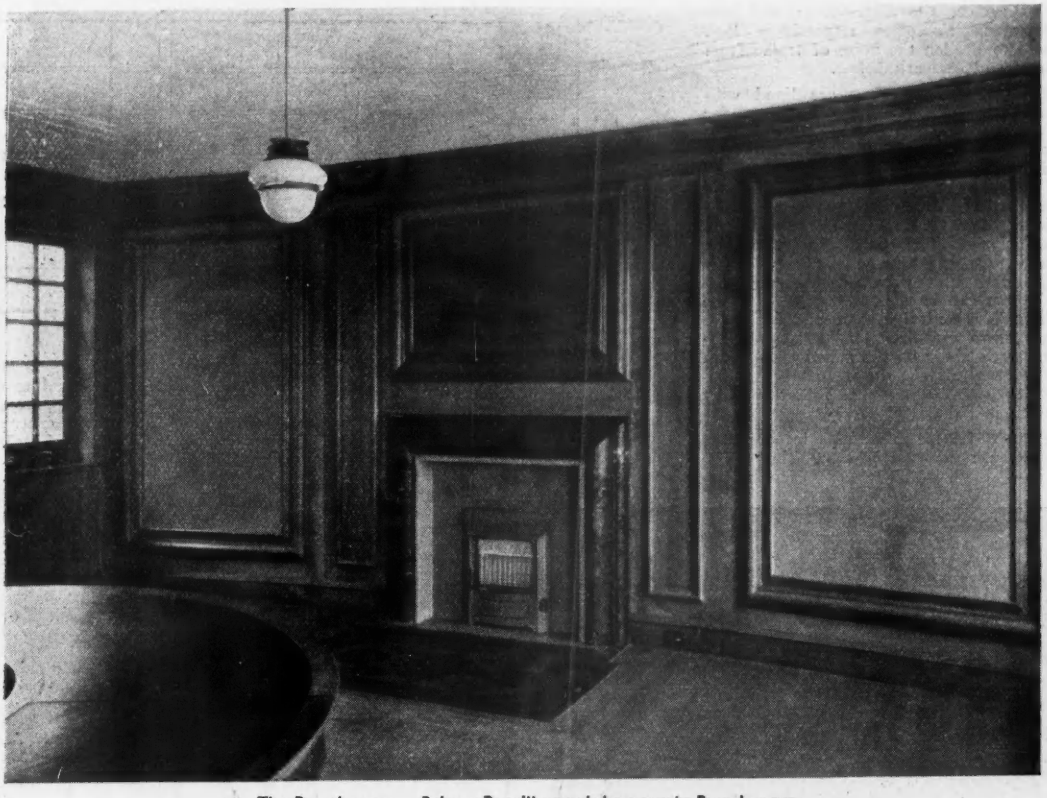
The whole of the first floor is occupied by the living-room. This has wood walls partly of purple Palisander and partly of aromatic cedar. The ceiling is painted yellow and the fireplace is of green slate. Over it is a large mural consisting of figure drawings by Eric Gill. To the right is a vitrine with a matt black background. The curtains are *gorge-de-pigeon* taffetas. The settee, shown on the left, is covered with bottle-green corduroy, and the cushions are covered in white natural calf. The oak strip floor has a Chinese carpet with a yellow ground.

The owner's bedroom suite occupies the whole of the top floor and is furnished with colourful pieces of Stuart furniture. The walls and ceiling are plain whitewashed and the painted floorboards are partly white and partly pink. The plain carpets are a lime-yellow colour. A remarkable set of Charles I Mortlake tapestries are hung on the walls. The bathroom adjoining is fitted up in the manner of a boat with three portholes on the south and a large window to the east.



The Dining-hall, with the door to the garden. The Græco-Roman head was dredged from the Thames Estuary.

GAS COMPANY HEADQUARTERS, CROYDON. WILLIAM G. NEWTON & PARTNERS, ARCHITECTS



The Board-room. *Below* : Panelling and doorway in Board-room.

GAS COMPANY HEADQUARTERS, CROYDON

WILLIAM G. NEWTON AND PARTNERS, ARCHITECTS

THESE HEADQUARTERS WERE BUILT BETWEEN 1939 and 1942. Though they occupy a conspicuous position in a much-attacked area, they have suffered no appreciable damage during the war; a parachute mine, which exploded in the vicinity while the building was in progress and seriously damaged the Town Hall, only drew some plaster-board nails fom the ceilings.

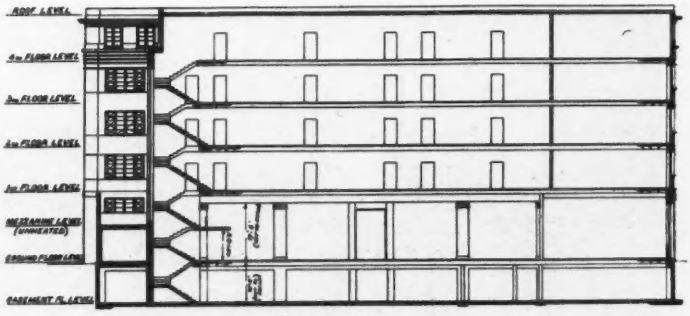
The structure is of reinforced concrete, by the Trussed Concrete Steel Company, Ltd. The ground floor is finished in cast stone (the Empire Stone Co., Ltd.), and the remainder of the building in "Shockbeton" slab, used as external shuttering and incorporated with the concrete. The flat roofs are mostly finished with Anderson's "Thermotile."

The ground floor is mainly devoted to a large show-room, and a lecture theatre for the demonstration of gas apparatus. The remaining floors are offices. The administration suite is at the top, and is linked together externally by a gallery. Both this device and the projecting pavilions at either

end (on which the board-room and the general manager's office respectively look out) help to deaden the noise of traffic from the street and car-park below.

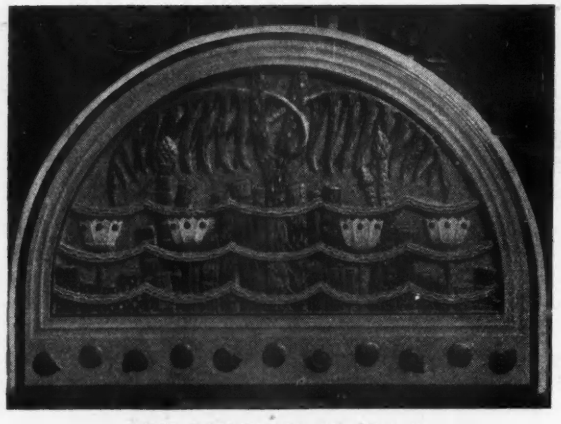
Internally, all the offices are lined with "Donnacona" building board on battens, for sound absorption, and the floors are cork tiles on boarding on sleeper joists laid on quilting. This is both to diminish the transference of sound and to allow of easy installation and alteration of sub-floor lighting systems. The corridors have "Muroglaze" dadoes in various colours. The board-room is finished in walnut with cork-tile panel filling. Wellstead's bronze windows are used throughout. All windows can be cleaned from inside the building. The central heating and hot-water cisterns have gas-fired boilers, and the furnace stack abuts on the spinal wall which contains flues to serve the numerous installations in the main showroom and the subsidiary showroom in the basement.

The two faience roundels in the top storey (south elevation) show the magic vapour of Arabian tales escaping from the urn where the djinn has been imprisoned. Within the staff entrance hall is a coloured plaster plaque (by Esmond Burton) recalling a landscape of the period when the coal-measures were deposited.



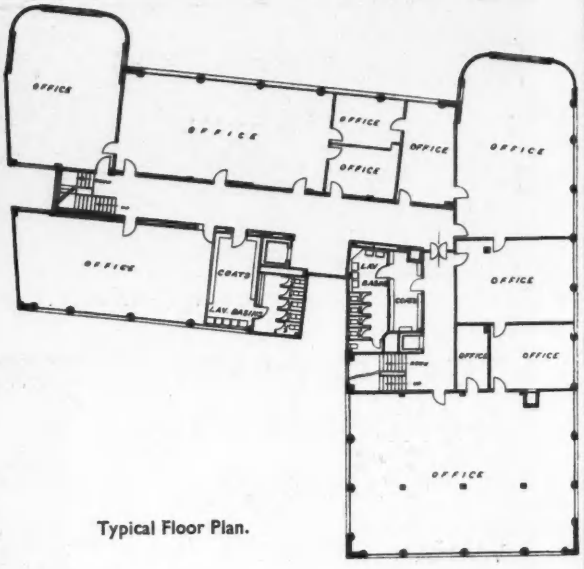
Cross Section.

It is understood that the large open space to the east of the building (now a car-park) will eventually be developed as a town square and civic centre. The builders were C. R. Price, of Stoke Newington Church-street, N.16.

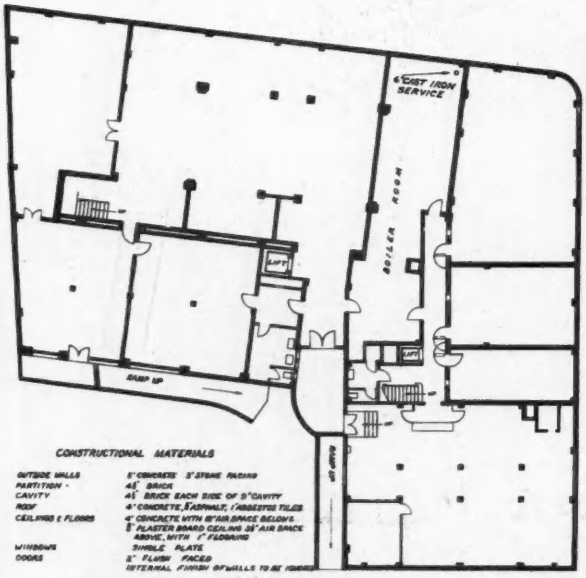


"THE BIRTHPLACE OF COAL"

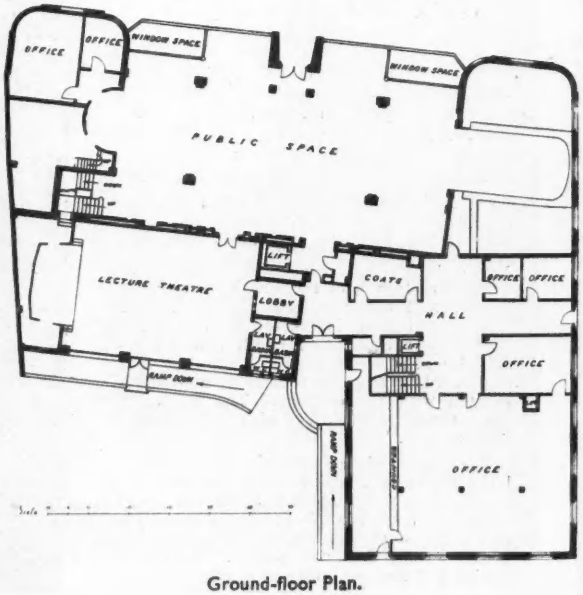
The design for this tympanum was carried out by Mr. Esmond Burton, from a sketch and colour notes prepared by the architect. Depicting "The Birthplace of Coal," the design, whose radius is about 30 in., has been carried out in fibrous plaster, painted.



Typical Floor Plan.

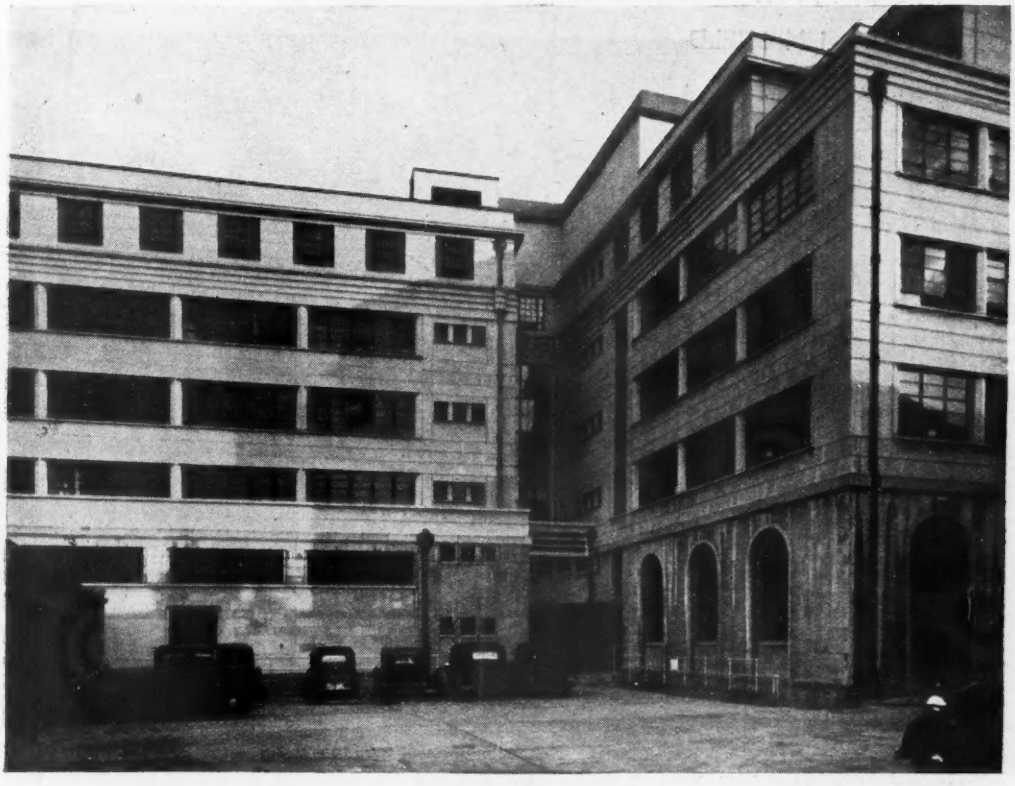


Basement Plan.



Ground-floor Plan.

External Gallery linking Administration Suite.



View at Rear.

GAS COMPANY HEADQUARTERS, CROYDON WILLIAM G. NEWTON & PARTNERS, ARCHITECTS

Entrance Front and West Elevations. *Below*: Layout.

HOSPITAL

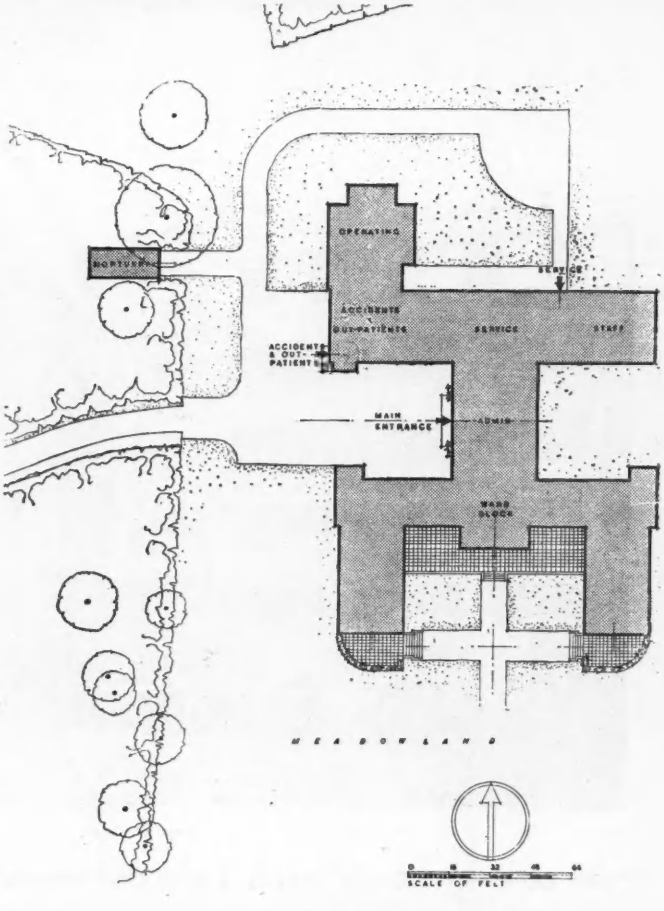
OXTED AND LIMPSFIELD

H. EDMUND MATHEWS, F.R.I.B.A., & E. D. JEFFERISS MATHEWS, A.R.I.B.A., ARCHITECTS
ASSISTANT: A. G. NISBET

THIS HOSPITAL, SERVING A LARGE mixed agricultural and residential area, was established as a cottage hospital supported by voluntary contributions after the 1914-18 war. It had outgrown its premises and had already been extended to the limits of a confined site. The Committee of Management required a large quiet site to provide accommodation for 22 general ward patients, four to six children and six private single-bed wards, with two private nurses' bedrooms, the usual operating and radiological facilities, accidents and out-patients' department and living accommodation for 17 nursing and domestic staff, with a matron's flat. Easy extension for all parts was to be an essential factor.

The site selected by the architects was "back land" in the form of an open meadow, protected on the north, east and west by trees, sloping to the south with open views and without road frontage. The building was planned to the northern end of the site, with sufficient space left for extension to the north, east and south, and permitting full use to be made of the southern slope and view.

PLAN.—The first consideration was to give all wards the fullest benefit to be derived from the southern aspect and view; the second to provide as much isolation and as good an aspect



Out-Patients' Entrance and West Elevations.

OXTED AND LIMPSFIELD HOSPITAL: Detail of Southern Elevation and Ward Wings.

OXTED AND LIMPSFIELD HOSPITAL Interior of a General Ward. *Below*: Operating Theatre.

as possible to the living-rooms of the resident staff; third, to centralise the administrative and domestic functions; and fourth, to relate the out-patients and reception of accidents to both the access drive and the operating theatre and X-ray departments. The development of these major conditions produced the "H" form plan with projecting wings on the southern side for the two general wards, and a northern wing for the operating department; the single

OXTED AND LIMPSFIELD HOSPITAL: Interior of Mortuary.

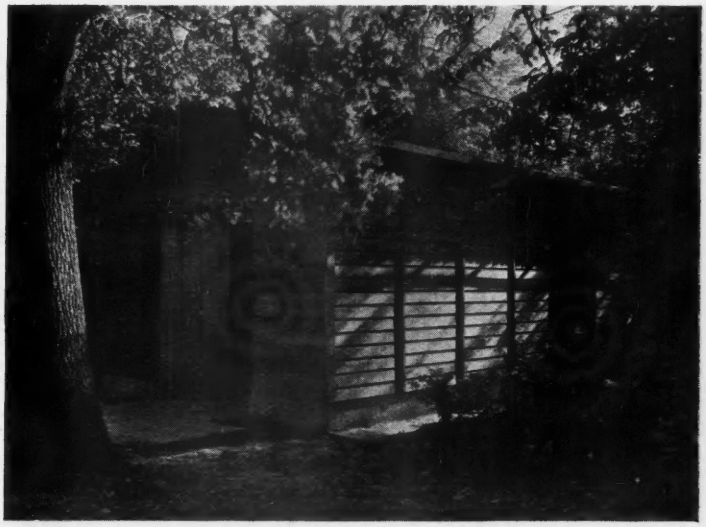
central kitchen serving both patients and the staff, placed on the northern intersection of the "bar" provided easy distribution; the "bar" accommodating on the ground floor the main entrance, and the administrative departments as a logical link between all departments of the hospital. The children's ward was placed centrally between the two general wards.

CONSTRUCTION. — Weight-carrying external brick walls with timber or reinforced concrete slab floor and roofs according to spans and purposes form the general basis of construction. Light steel and reinforced concrete beams and lintels have been freely used to provide large spans. External walls are hollow and allow for thinner facing bricks, these being 2-in. "rustic" flettons of brown-red colour laid to a form of Flemish bond in a lime mortar with deeply raked back joint. The internal skin is the primary structural member. Lime mortar has been used throughout above ground, and this, together with careful use of sound absorbents in various forms in and on floors and partitions, has contributed to reduction of resonance and the sound insulation of the building.

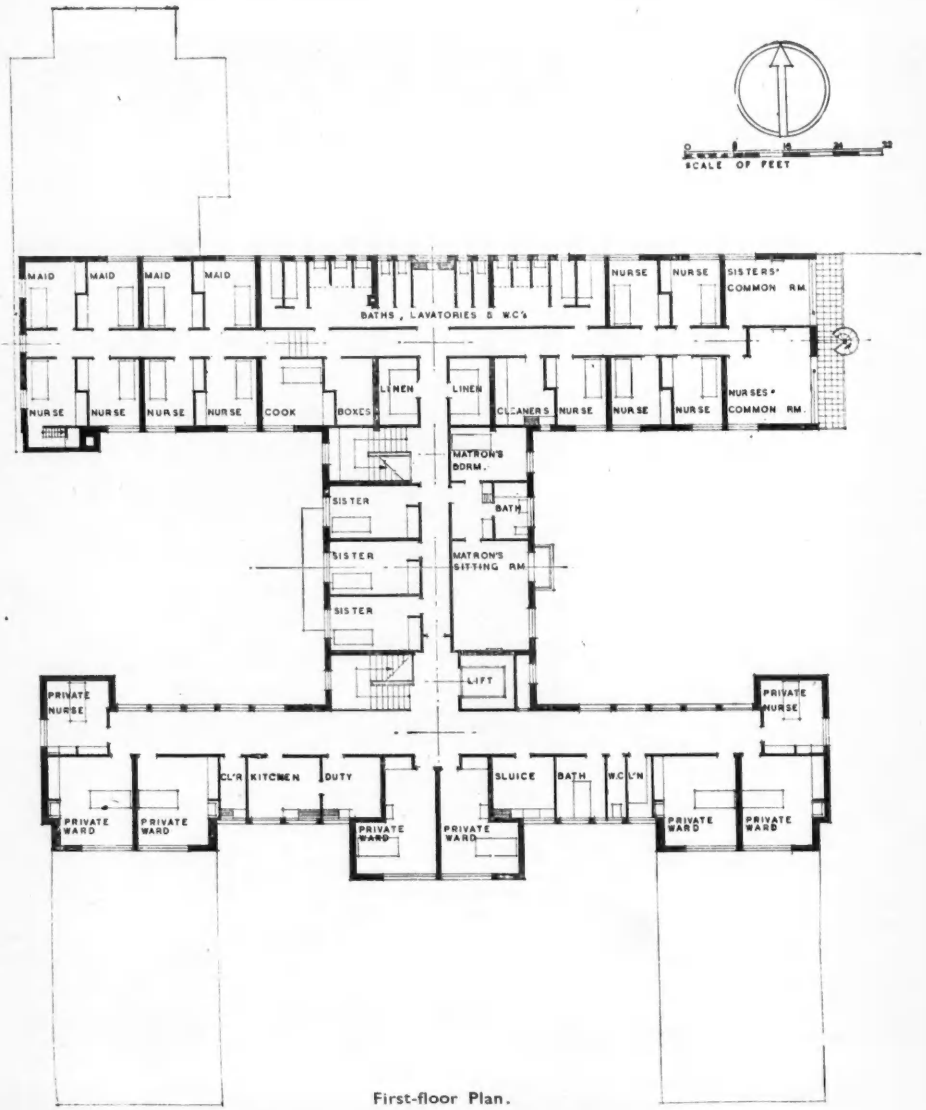
FINISHINGS AND SERVICES.—Internally pale colours, frequently relieved by white, have been used to obtain a feeling of brightness and efficiency. Surface textures have been dictated by practical demands of cleaning and maintenance. A code of simple elementary colours has been used to designate the electric, gas, hot and cold domestic water and hot-water heating services. Heating is centralised low-pressure hot water. Wall radiators are used generally with radiant concealed ceiling panels in the wards and operating theatre. Gas fires are used to supplement the heating in the private wards and staff living rooms.

COST.—The final cost, of the building in 1938-39 was approximately £650 per patient's bed, including nursing and domestic staff accommodation and all ancillary departments.

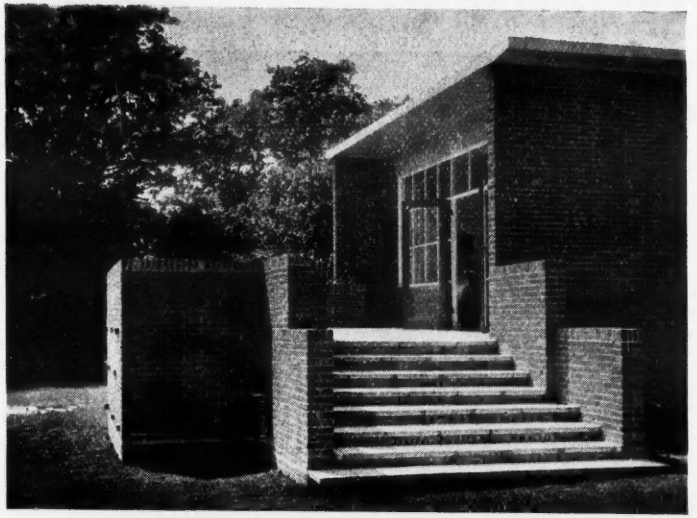
The quantity surveyors were Messrs. Harris and Porter, and the clerk of works Mr. C. J. Greenwood. The general contractors were Messrs. Killby and Gayford, Ltd., whose foreman was Mr. F. K. McCall. The contractor for garden work was Mr. A. Young.



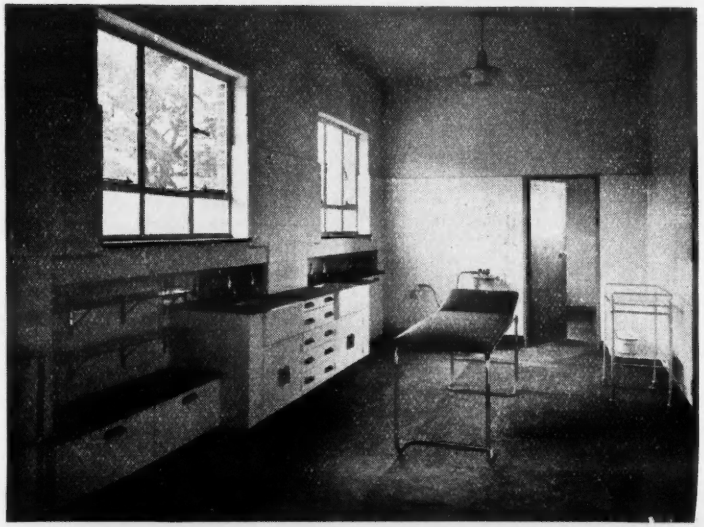
Exterior of Mortuary.



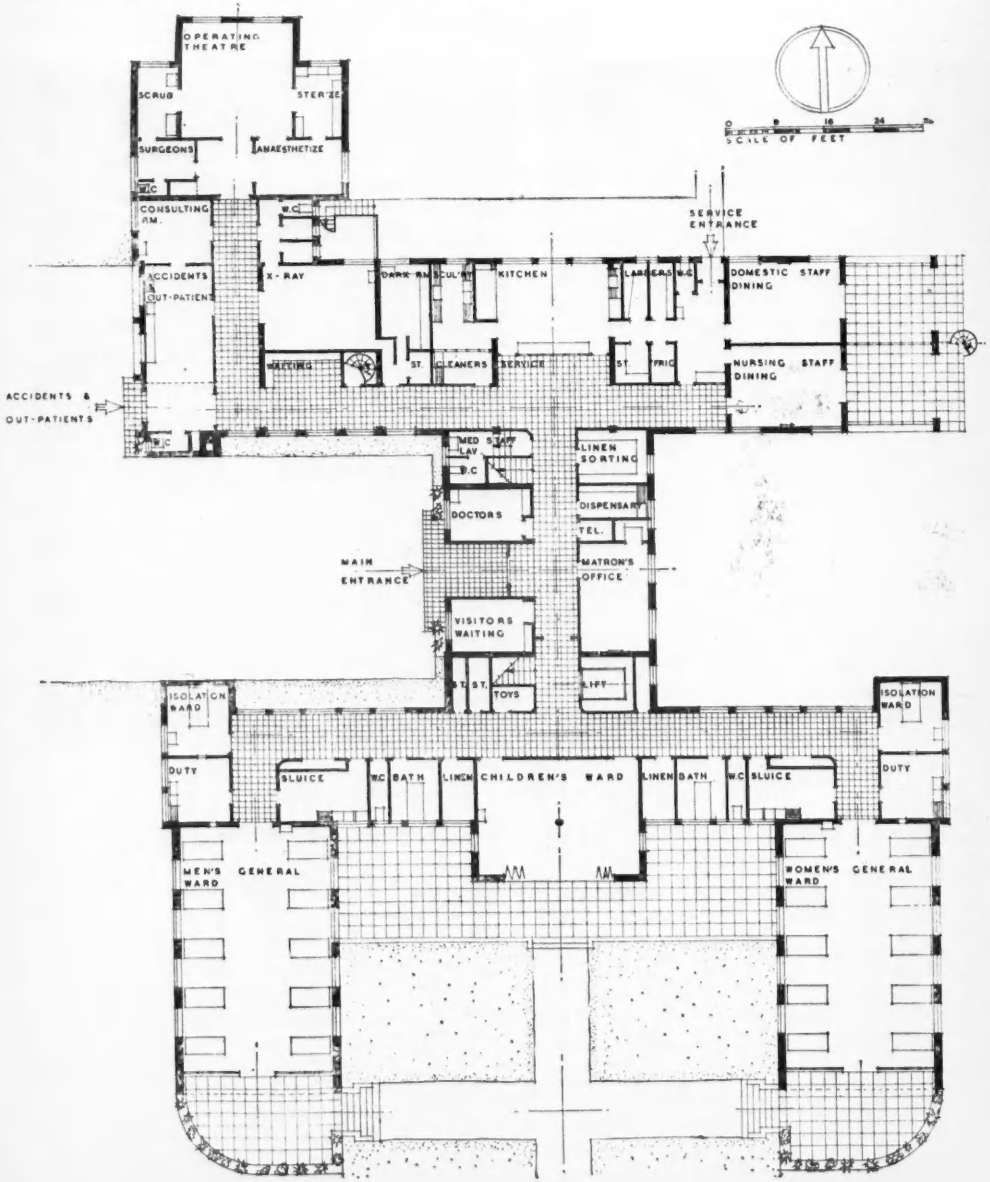
First-floor Plan.



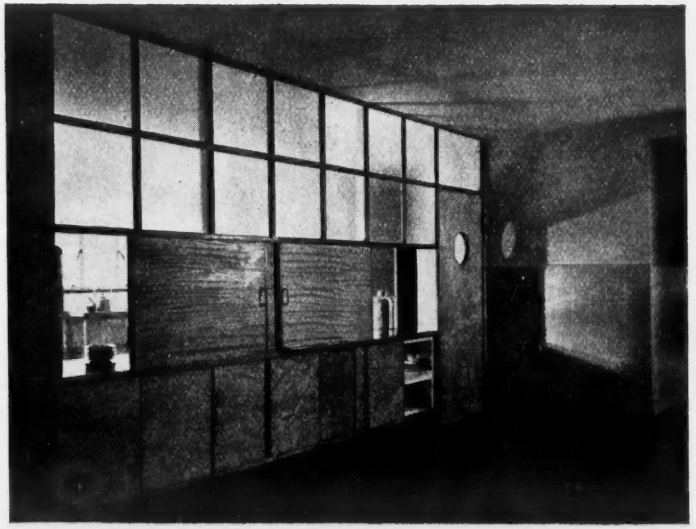
Above : Detail of veranda at South End of Wards.
Below : Out-Patients' and Casualty Room.



First-floor Plan.



OXTED AND LIMPSFIELD HOSPITAL *Left*: Ground-floor Plan. *Above*: First-floor Corridor to Private Ward. *Below*: Service Counter to Kitchen.



1.

PHOTO-LOFTING DEPARTMENT

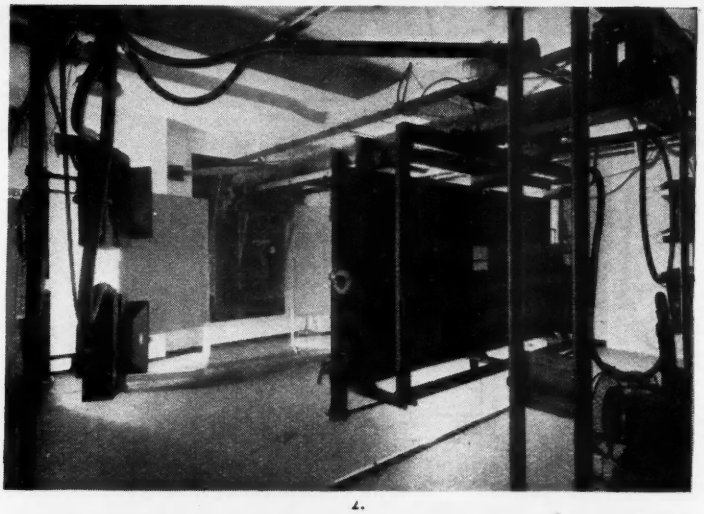
for

HANDLEY-PAGE, LTD.

HOWARD V. LOBB, F.R.I.B.A., ARCHITECT

MANY PROCESSES WERE DEVELOPED by the aircraft industry during the war to shorten the time between the detailed design stage and the issue of the necessary drawings to the workshops. The photographic lofting plant illustrated, installed by Handley-Page, Ltd., was probably the greatest means of speeding up production.

Briefly, the process consists of photographing the original layout drawings usually prepared on special aluminium sheets to a maximum size of 8 ft. by 4 ft. The glass negative so obtained is used in the same camera for the projection of the image on to sensitised sheets of aluminium or steel for working in the shops. It will be understood that this saves the large amount of time required in mark-



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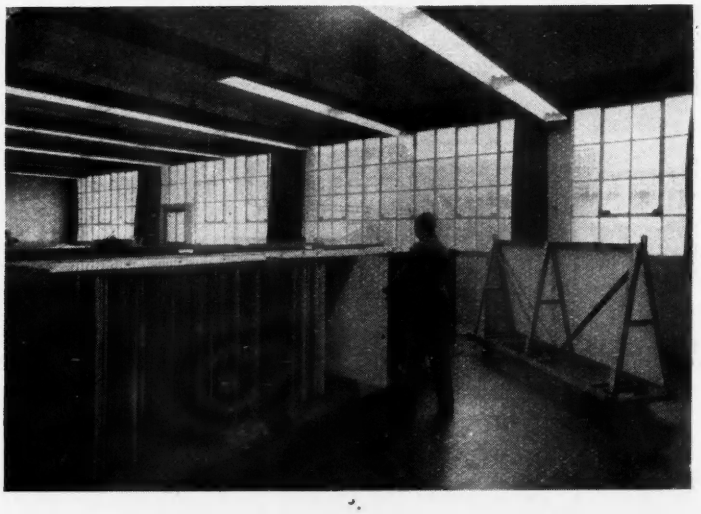
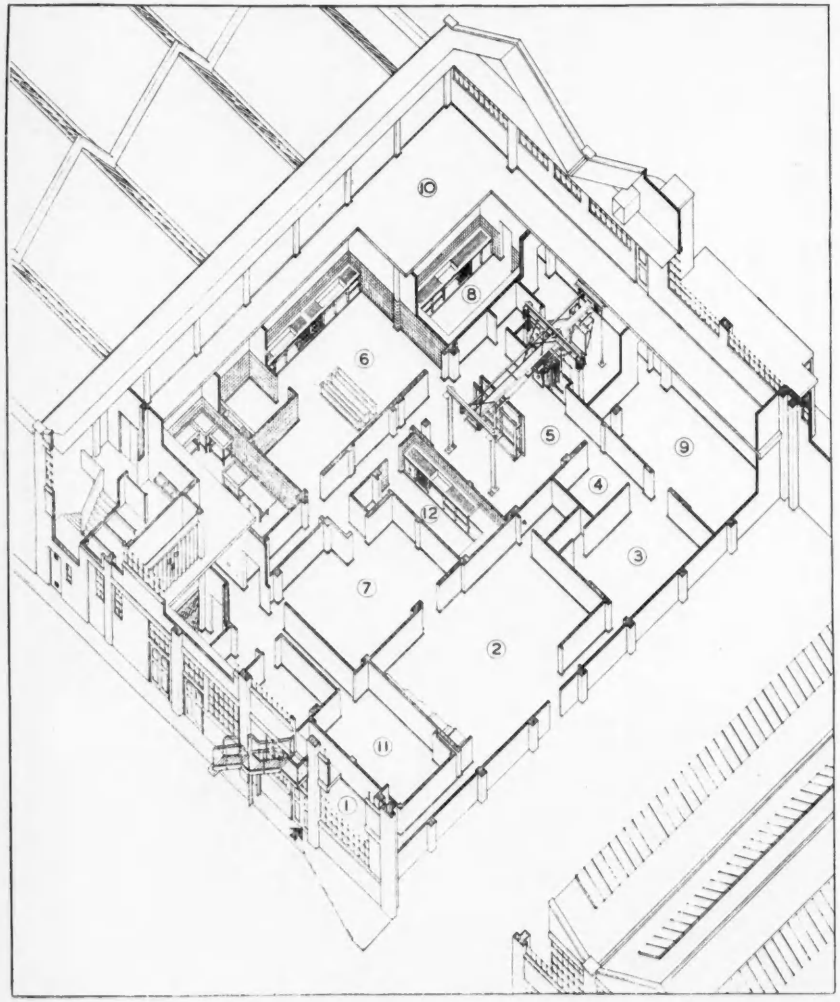


3.

KEY TO ILLUSTRATIONS :

1. General view of upper floor. Note double-tilt fluorescent lighting.
2. The projection room, where preliminary and master layouts are photographed on quarter-scale negatives.
3. Filing racks for layouts.



Negative Process Room.

ing out from drawings. The need for extreme accuracy in the camera and processing equipment presented several building problems. The camera, for example, is 34 ft. long, and weighs 7½ tons, and temperature control in the lofting room and camera room is of first importance.

The lofting room has a span of 135 ft., and is fitted with double-row fluorescent lighting, and is air-conditioned, all windows being sealed. The process rooms on the floor below are planned with light traps between each department, since 150 foot-candle lighting may be required in the camera room, for example, with intense blackness in the laminating room adjoining. Floors and wall finishes in some rooms had to resist chemicals used in the process.

Key to Axonometric View.

The sequence of the production and names of the departments as shown on the axonometric view are:—

(1) Metal sheet preparation.
(2) Spraying room fitted with flame-proof lighting and provided with plant to give 30 air changes per hour.
(3) Laminating room.
(4) Curing.
(5) Projection room.
(6) Process room.
(7) Inspection.
(8) Negative process room.
(9) Photostat projection room.
(10) Lofting room on first-floor level shown cut away to reveal the ground floor below.
(11) Statfile recorder room, and
(12) Laboratory.

PHOTO-LOFTING DEPARTMENT, FOR HANDLEY-PAGE, LTD. HOWARD V. LOBB, F.R.I.B.A., ARCHITECT

THE FOUNDATIONS FOR THE NEW HOUSE OF COMMONS

PART I.

THE Chamber of the House of Commons was almost completely destroyed by fire as a result of a heavy air attack on May 10, 1941. In addition, a high explosive bomb fell near the south-east corner of the Cloisters (situated to the east of Westminster Hall), entirely destroying the south and east ranges and causing some damage to the remainder.

The plans for the rebuilding of the House of Commons and adjacent portions of the building were drawn up by Sir Giles Gilbert Scott, O.M., R.A., and when the scheme was approved Sir Giles was joined by Mr. Adrian Scott, M.C., F.R.I.B.A., to assist in the carrying out of the project.

Dr. Oscar Faber, O.B.E., D.C.L.(Hon.), D.Sc., was appointed as engineer consultant for heating, ventilating and electrical installations and other services—and also acted as consulting engineer to the architects for the structural work.

The extent of the rebuilding comprises primarily the House of Commons, complete with Division Lobbies, etc., the Commons Lobby, the south and east wings of the Cloisters and the block lying to the east of the Cloisters (extending as far south as the Central Hall and as far east as the Commons Corridor leading from Central Hall to Commons Lobby) (see Fig. 1).

The complete scheme includes also extensive replanning, involving new construction in the various surrounding portions of the Palace, but these alterations do not in general involve the construction of new foundations.

In accordance with the terms of reference, the new project not only maintains the original dimensions of the Chamber itself, but also follows the original plan of external walls—although the internal replanning provides greatly increased amenities for Members and others.

Demolition.

A complete set of plans and sections of the original building had been prepared before the war by the Office (now Ministry) of Works—and proved to be invaluable in connection with the new project.

A contract for demolition was drawn up by the Ministry of Works to the architects' requirements. The demolition contract was carried out by Messrs. Chas. Griffiths, Ltd., and was completed by the end of January, 1946. This contract included for removing the lower structure of the old Chamber and extending the demolition so as to leave a clear site over the whole area required for the new construction.

The Ministry of Works, acting in consultation with the architects and the engineer consultant, dealt with the stability of the adjoining portions of the work left standing.

As the Cloisters are an ancient monument, it was desirable to take down the absolute minimum necessary to enable the new construction to proceed, and the practicability of underpinning one of the Cloister piers which stood on the line of a new subway wall was examined. This pier had already settled more than 4½ in., and was not in a sound state to support the elaborate stone vaulting over the ground floor of the Cloisters and the weight of the first floor and vaulted roof over. It was eventually agreed by all concerned to give temporary support to the vaulting at a line clear of the new construction and then for the Ministry of Works to arrange for the removal of the pier—and also the stone vaulting back to a predetermined line to suit the coursing of the vault stones—adding temporary tie-bolts to take the thrust from the vaulting.

To give the necessary support, before the removal of the pier in question, the following scheme was prepared by the Ministry of Works, in consultation with the architects and the engineer consultant, and was carried out by Messrs. Trollope and Colls, Ltd. Two *in situ* concrete piles were cast clear of the line of the new outer subway wall, and steel joists were spanned across the heads of these piles. A brick wall was then built from these beams to support the first floor and roof, including the stone vaulting at these levels. This wall, in addition, afforded the necessary weather protection to the open end of the Cloister range during the reconstruction period. When this was completed, the pier and vaulting were carefully removed back to the predetermined position.

This work was successfully completed soon after work started on the main foundation contract.

With regard to the east wall of the Members' Staircase, the following problems arose :

(a) The demolition contract included for the removal of the walls running eastward from the wall in question—and of the various floors—all of which gave support to this east wall of the Members' Staircase. Moreover, the wall was subject to outward thrust from heavy stone vaulting over the Members' Staircase. In addition, an octagonal turret which previously gave buttress support to the north end of this wall had to be demolished under the demolition contract.

(b) The new pipe subway was to pass immediately adjacent to the east wall of Members' Staircase, and the dig level for this new subway was about 4 ft. below the existing foundations of the wall—making it necessary to underpin this wall.

A scheme was therefore agreed with the Ministry for thoroughly tying back the wall, with long tie-rods running in both directions so as to resist the outward diagonal thrust from the pendentives of the stone vaulting. Openings in the wall itself were bricked up solid, and defective parts of the wall were strengthened with new brickwork.

This work was successfully completed before the foundation contract commenced —and the scheme for the underpinning of the wall, which was intimately bound up with the construction of the pipe subway, was allowed for in the plans for the foundation contract.

Foundation Contract.

In view of the enormous amount of work involved in the development and elaboration of the plans for the superstructure, it was decided that time would be saved by placing a separate contract for

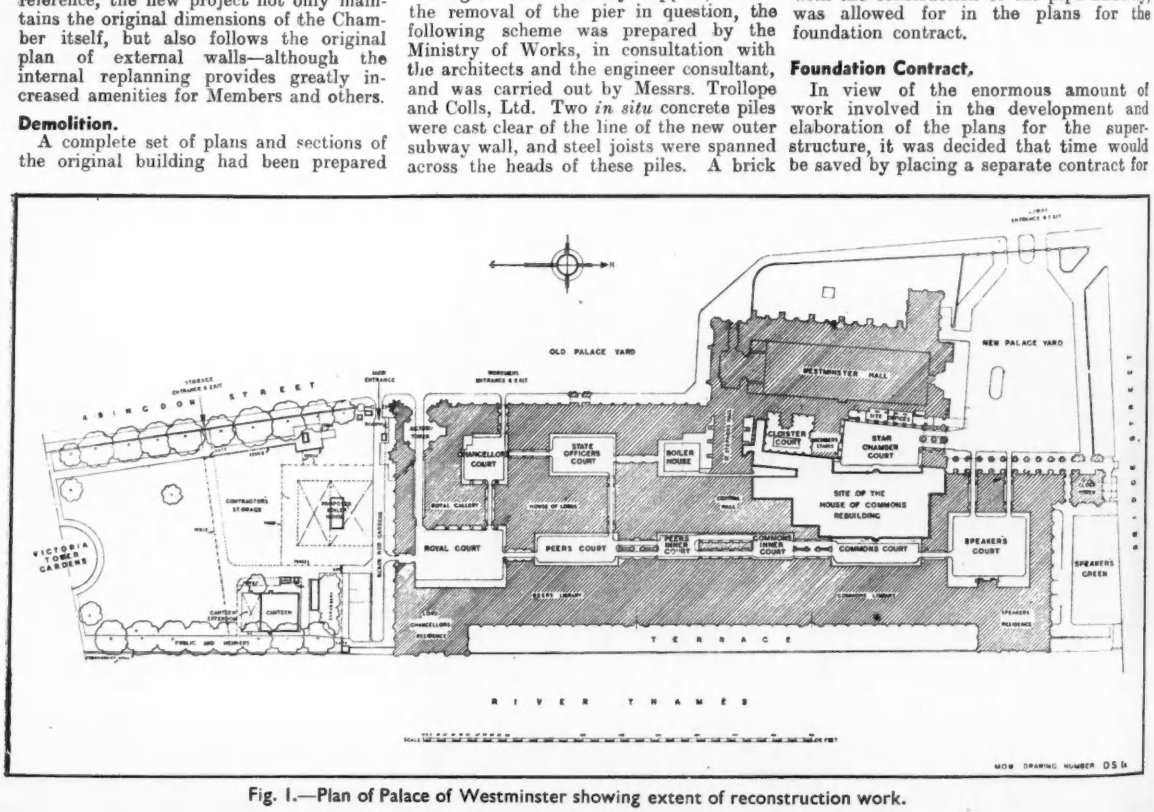


Fig. 1.—Plan of Palace of Westminster showing extent of reconstruction work.

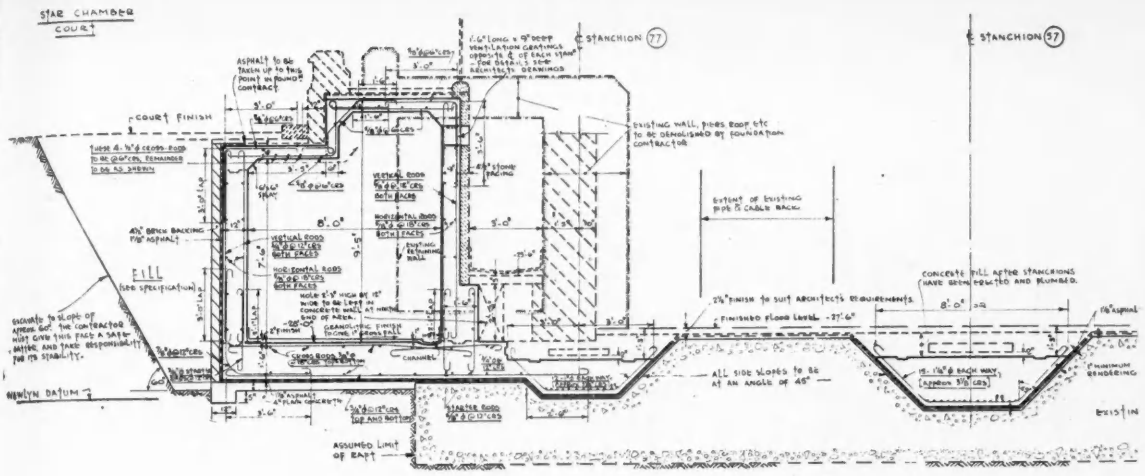

STAR CHAMBER COURT
STANCHION (77)
STANCHION (57)
COURT FINISH
EXISTING WALL, PIPES, ROOF ETC TO BE DEMOLISHED BY FOUNDATION CONTRACTOR
EXTENT OF EXISTING PIPE & CABLE RACKS
FILL (SEE SPECIFICATION)
CONCRETE FILL AFTER STANCHIONS HAVE BEEN ERECTED AND PLUMBED.
FINISHED FLOOR LEVEL -27'-6"
ALL SIDE SLOPES TO BE AT AN ANGLE OF 45°
ASSUMED LIMIT OF RAFT

Fig. 2.—Pipe Subway, North Section.

the foundations—so that this could proceed while the superstructure drawings, specifications and bills of quantities and contract documents were being prepared.

While, therefore, the demolition contract was in hand, the architectural scheme for the new building was sufficiently developed to enable the consulting engineer to determine the loads to be carried and to prepare detail drawings and specification of the reinforced concrete foundations. Bills of quantities for this work were then prepared by Mr. G. Flower.

A contract was placed with Messrs. Trollope and Colls, Ltd., to start work at the beginning of February, 1946 (immediately following the completion of the demolition work) and this foundation contract was duly completed to the satisfaction of all concerned.

The work covered by the foundation contract can conveniently be subdivided into the following general divisions (see Foundation Plan, Fig. 5) :

(a) Foundations for the stanchions of the steel frame for the new building.

(b) Construction of a reinforced concrete subway for services. This subway is situated on the west side of the new building. At its south end it passes under the east range of the Cloisters (which are to be rebuilt under the superstructure contract). At its north end the subway passes under the east side of Star Chamber Court, and runs adjacent to and outside the original retaining wall which bounded the west side of the "House of Commons" block.

Between the north and south sections the pipe subway passes under the north-east bay of Cloisters and then continues adjacent to the east wall of Members' Staircase.

(c) The construction of a new reinforced concrete retaining wall on the east side against Commons Court about 4 ft. 6 in. beyond the external wall, thus providing an area for light for the rooms at basement floor on this side.

(d) The construction of the new tunnelled passageway under Commons Court to provide access from the basement of the new building to the basement of the existing undamaged building on the east side of this Court.

Priority of Operations.

While the contractor was given freedom to proceed simultaneously with items (a), (b) and (c), he was called upon to give precedence to the completion of item (b), (pipe subway), and programmes were drawn up accordingly.

The reason for this was as follows : In the original building, a complete range of service pipes and cables ran from north to south in a basement corridor under the original Chamber. These had to remain in continual service. They were therefore supported by tubular scaffolding and given protection from damage by the demolition contractor.

As the basement floor under the "House" was to be used for Members' offices under the new plan, neither these service pipes nor those required for the schemes for the new heating, ventilating, electrical and other services could be allowed to occupy any part of the basement floor space under the House. The new pipe subway was therefore designed to take both the diversions for the old services, and also the new services. Moreover, until the pipework and cables for the diversions of the old services were completed, the existing range of pipes and cables had to be left in their position crossing the site from north to south, not only causing a serious obstruction to traffic from one side of the site to the other, but also delaying the construction of a number of the stanchion foundations which occurred on the line of this range of services.

With regard to item (d) (tunnel under Commons Court), this could not be started before the Easter recess—as until then it was not permissible to close Commons Court to traffic—and it was required to be completed for passage of traffic as soon as possible after the end of the recess.

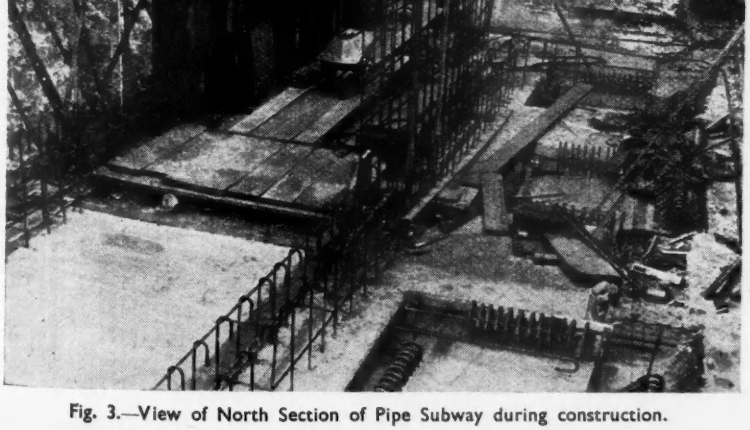


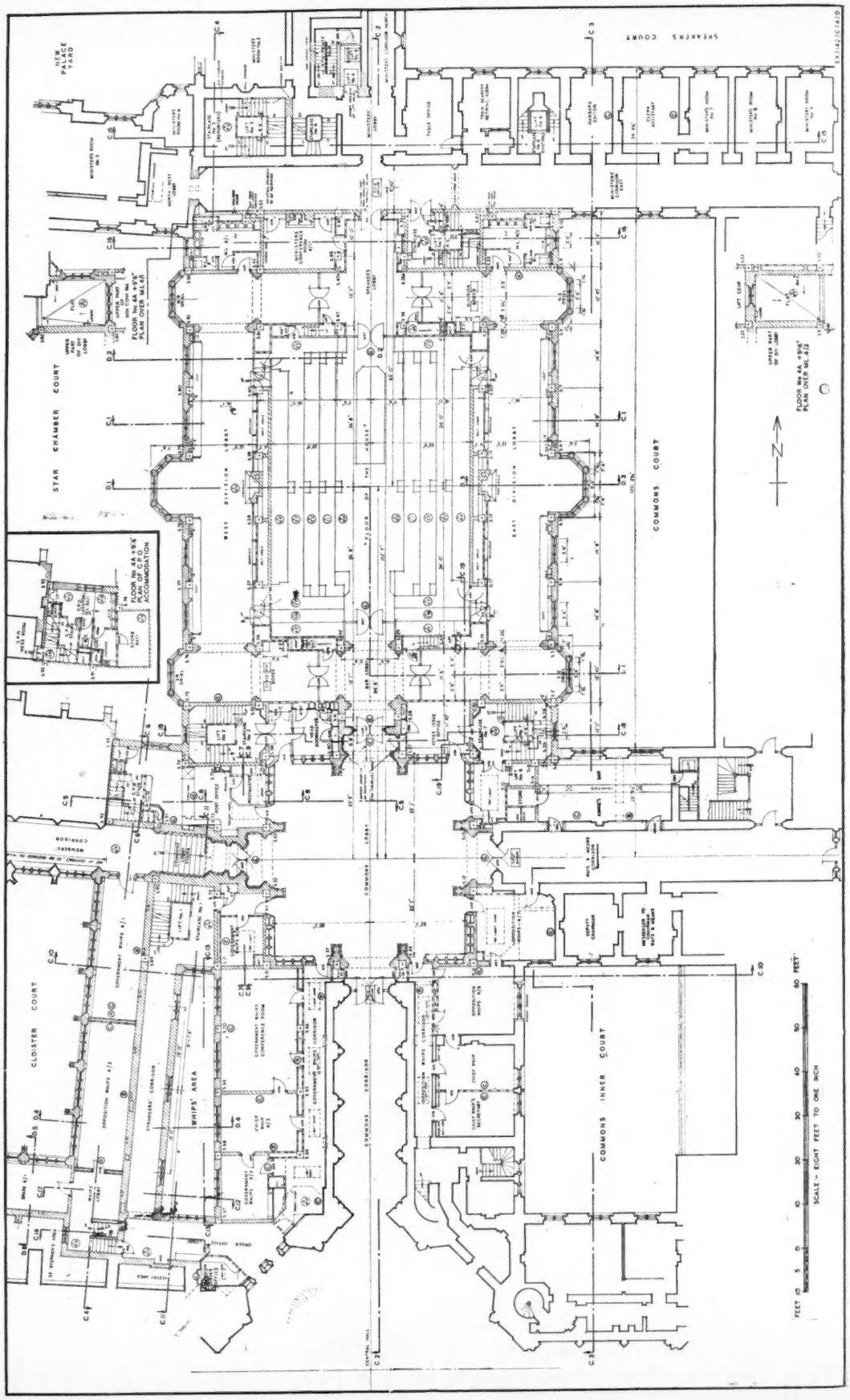
Fig. 3.—View of North Section of Pipe Subway during construction.

Subsoil Conditions.

A study of old records revealed that when Westminster Palace was built to the designs of Sir Charles Barry it was founded on a thick raft of lime concrete, but the extent and thickness of this raft were not very clearly defined.

When the subsoil investigations were made by means of trial borings and trial holes, the positions of some of the trial holes were selected to agree with the probable edge of the raft—and, in fact, the raft edge was found in these holes and this enabled the probable extent of the raft to be plotted.

From this it appeared likely that all stanchion foundations would occur within the limits of the old raft—and as the work proceeded this was found to be the case—except for a few stanchions to the east of the Cloister Court, where no concrete was



THE FOUNDATIONS FOR THE NEW HOUSE OF COMMONS : Fig. 4.—Plan of Principal Floor (the "Floor of the House").

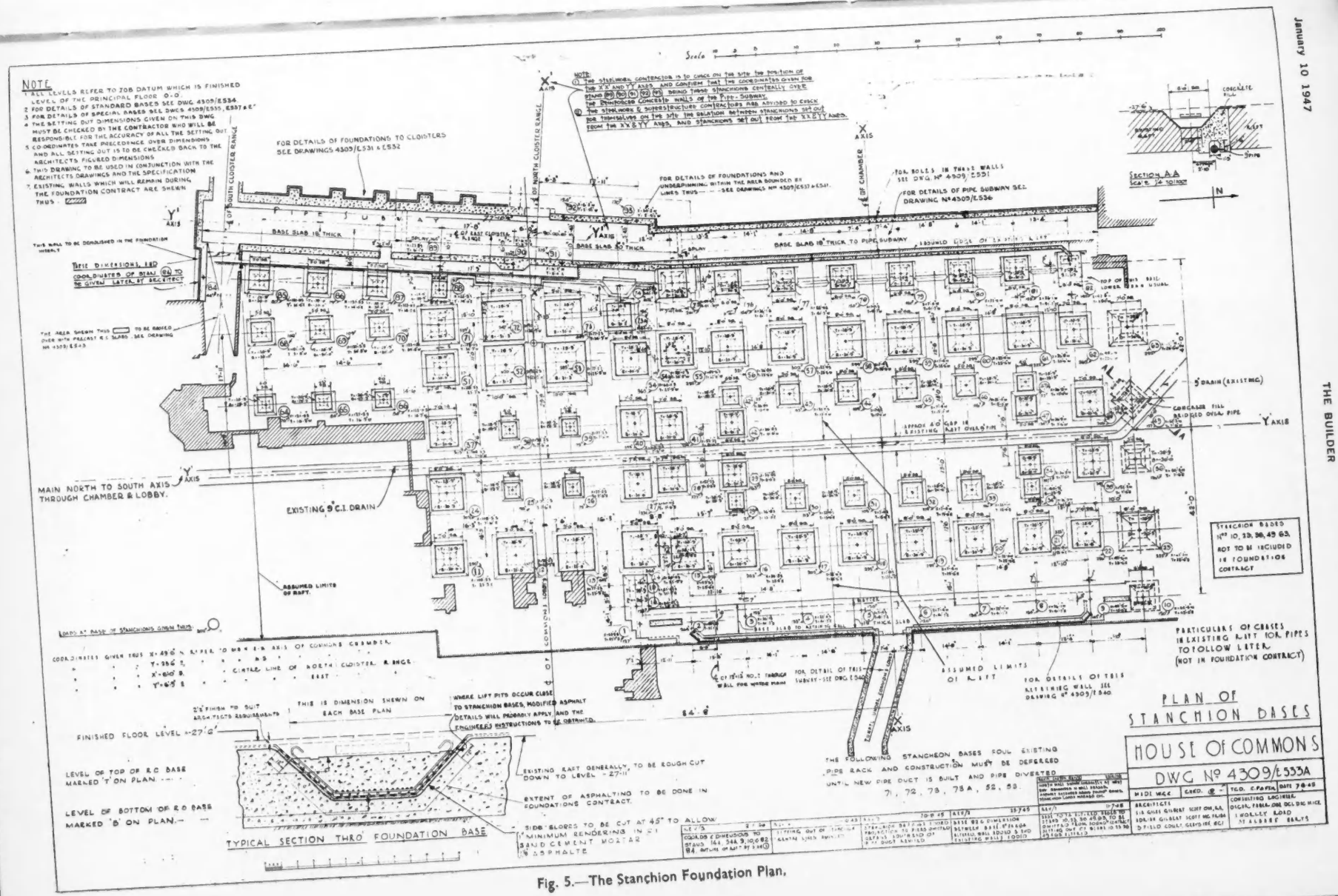

NOTE
1 ALL LEVELS REFER TO JOB DATUM WHICH IS FINISHED LEVEL OF THE PRINCIPAL FLOOR 0-0
2 FOR DETAILS OF STANDARD BASES SEE DWG. 4309/E534
3 FOR DETAILS OF SPECIAL BASES SEE DWGS 4309/E535, E537 & E
4 THE SETTING OUT DIMENSIONS GIVEN ON THIS DWG MUST BE CHECKED BY THE CONTRACTOR WHO WILL BE RESPONSIBLE FOR THE ACCURACY OF ALL THE SETTING OUT.
5 CO-ORDINATES TAKE PRECEDENCE OVER DIMENSIONS AND ALL SETTING OUT IS TO BE CHECKED BACK TO THE ARCHITECTS FIGURED DIMENSIONS
6 THIS DRAWING TO BE USED IN CONJUNCTION WITH THE ARCHITECTS DRAWINGS AND THE SPECIFICATION
7 EXISTING WALLS WHICH WILL REMAIN DURING THE FOUNDATION CONTRACT ARE SHEWN THUS -
FOR DETAILS OF FOUNDATIONS TO CLOISTERS SEE DRAWINGS 4309/E531 & E532
FOR DETAILS OF FOUNDATIONS AND UNDERPINNING WITHIN THE AREA BOUNDED BY LINES THUS — SEE DRAWINGS Nos 4309/E537 & E541.
FOR DETAILS OF PIPE SUBWAY SEE DRAWING No 4309/E536
FOR BOLES IN THESE WALLS SEE DWG. No 4309/E531
PIPE SUBWAY
BASE SLAB 18" THICK
BASE SLAB 30" THICK
BASE SLAB 18" THICK TO PIPE SUBWAY
THIS WALL TO BE DEMOLISHED IN THE FOUNDATION INTERVAL
THESE DIMENSIONS AND CO-ORDINATES OF BEAM (B) TO BE GIVEN LATER BY ARCHITECT
THE AREA SHEWN THUS [ ] TO BE ROOFED OVER WITH PRECAST R.C. SLABS - SEE DRAWING No 4309/E543
MAIN NORTH TO SOUTH AXIS THROUGH CHAMBER & LOBBY.
EXISTING 9" C.I. DRAIN
ASSUMED LIMITS OF RAFT.
5" DRAIN (EXISTING)
CONCRETE FILL BRIDGED OVER PIPE
APPROX 4'-0" GAP IN EXISTING RAFT OVER PIPE
LOADS AT BASE OF STANCHIONS GIVEN THUS
COORDINATES GIVEN THUS X-49·6 N & E PER "D MAK E-D AXIS OF COMMONS CHAMBER.
Y-39·6 " " " " "
X-610·8 " " CENTRE LINE OF NORTH CLOISTER RANGE
Y+69·8 E " " EAST
EXCAVATION BASES Nos 10, 23, 38, 49 & 63 NOT TO BE INCLUDED IN FOUNDATIONS CONTRACT
PARTICULARS OF CHASES IN EXISTING RAFT FOR PIPES TO FOLLOW LATER. (NOT IN FOUNDATION CONTRACT)
THIS IS DIMENSION SHEWN ON EACH BASE PLAN
WHERE LIFT PITS OCCUR CLOSE TO STANCHION BASES, MODIFIED ASPHALT DETAILS WILL PROBABLY APPLY AND THE ENGINEER'S INSTRUCTIONS TO BE OBTAINED.
FINISHED FLOOR LEVEL -27'-0"
LEVEL OF TOP OF R.C BASE MARKED 'T' ON PLAN.
LEVEL OF BOTTOM OF R.C BASE MARKED 'B' ON PLAN.
TYPICAL SECTION THRO FOUNDATION BASE
EXISTING RAFT GENERALLY, TO BE ROUGH CUT DOWN TO LEVEL -27'-11"
EXTENT OF ASPHALTING TO BE DONE IN FOUNDATIONS CONTRACT.
SIDE SLORES TO BE CUT AT 45° TO ALLOW MINIMUM RENDERING IN CI SAND CEMENT MORTAR & ASPHALTE
THE FOLLOWING STANCHION BASES FOUL EXISTING PIPE RACK AND CONSTRUCTION MUST BE DEFERRED UNTIL NEW PIPE DUCT IS BUILT AND PIPE DIVERTED
71, 72, 73, 75A, 52, 53.
ASSUMED LIMITS OF RAFT
FOR DETAILS OF THIS RETAINING WALL SEE DRAWING No 4309/E540
PLAN OF STANCHION BASES
HOUSE OF COMMONS
DWG No 4309/E533A
MIDI WEE
CHKD. @ -
TCD. C.F.P.R.
DATE 7-8-46
ARCHITECTS
CONSULTING ENGINEER
DIGGS, FARELONG DEL DUC MICE
WILLIAM REID SCOTT MC FARLANE
I WOLLEY ROAD
P. FIELD GOULT. GERRARD ARCH'S
M ALBERT EARLY'S

Fig. 5.—The Stanchion Foundation Plan.

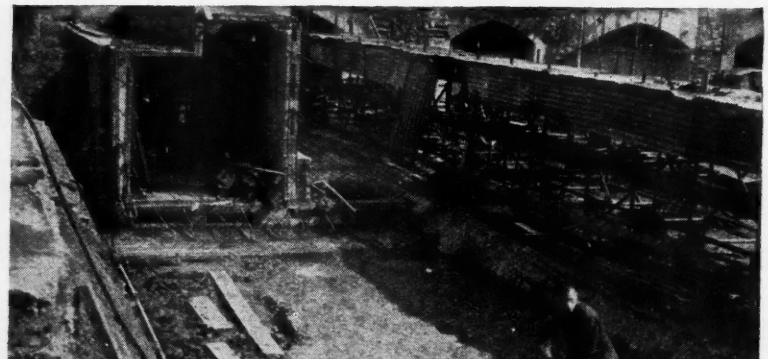


Fig. 6.—View of completed length of North Section of Pipe Subway.

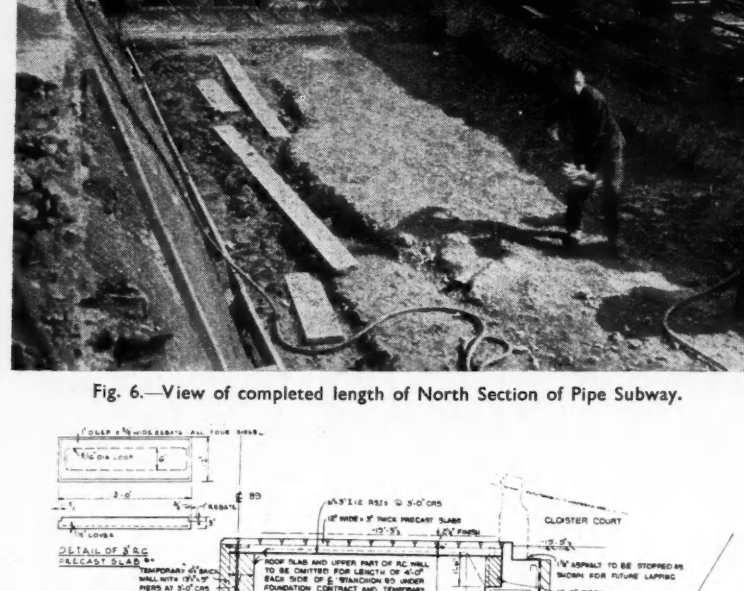


Fig. 7.—Pipe Subway, South Section.

found, but instead some old brick footings were encountered.

The borings indicated that the raft was generally not less than 5 ft. thick, and rested on a layer of sandy ballast which extended (with variation in the "sandiness" of the ballast) for a further 14 ft. average—at which level clay was reached—starting as a medium brown clay only about a foot thick and then changing to blue clay. Borings and trial holes taken beyond the western edge of the existing raft in Cloister Court showed made ground of varying thickness with a 7-ft. layer of soft brown clay at the required dig level with silty sand below.

It was therefore clear that while the whole of the steel-framed structure could be carried (with appropriate precautions explained later) on the existing raft, other portions of the new foundations, including the major part of the pipe subway, would be founded on clay. Moreover, although the outer wall and the majority of the base slab of this pipe subway extended beyond the confines of the raft, a narrow strip along the east side would sit on the raft—and special consideration had to be given to the design of this part of the work to avoid unequal settlement and resultant cracking.

Standing Water Level.

Standing water level was found in the trial borings at about −7.0 Newlyn Datum, which is about 4 ft. below the general level of the underside of the old raft. Periodic observations of this water level established the fortunate fact that this level was not affected by the tidal rise and fall of the river. This is a tribute to the soundness of the construction of the river wall as the tidal variation is from − 7.75 N.D. at mean low water springs to + 12.11 N.D. at mean high water springs, a total rise and fall of nearly 20 ft. At high water, therefore, the level of the river is over 19 ft. above the steady standing water level measured in the boreholes (and nearly 10 ft. above the new basement floor level, which is to be at + 2.83 N.D.—*i.e.*, some 6 in. to 9 in. above the top of the existing raft).

Although the steady standing water level is about 4 ft. below the underside of the existing raft, it was decided to "tank" the new building with 3-coat asphalt to keep the building dampproof. This was more necessary in the case of the new building as the new scheme included for using the basement floor under the "House" for Members' offices.

The foundation contract included for laying those parts of the tanking which could not be laid under the superstructure contract, and such asphalt was left with suitable laps to provide for proper watertight junctions being made when the asphalt is continued in the future superstructure contract.

Stanchion Foundations. (*See Fig.* 5.)

Whereas the load from the old building had been transferred to the raft fairly uniformly from the thick load-bearing walls, the load from the new structure was concentrated almost entirely at the stanchions. The old raft was not considered strong enough to carry these concentrated stanchion loads (which varied up to about 600 tons) with the small spread obtainable from the normal type of stanchion bloom base. Nor was there sufficient depth to accommodate the large built-up gusset type stanchion bases which would have been needed to keep the pressure on the raft down to a safe value (apart from the fact that such a method would have been very uneconomical) since the new finished basement floor level was only some 6 in. to 9 in. above the raft.

It was therefore decided to cut out at the stanchions a sufficient area and depth of existing raft to enable a reinforced concrete base to be set into the upper part and so provide the necessary spread to keep the pressure on the existing raft down to 6 tons per square foot, which was considered to be a safe value.

These cuttings into the upper part of the old raft were made with a flat bottom and with sides sloping up at 45 deg., and were made larger than the required size of the reinforced concrete base to allow for the cut surface being rendered and asphalted with three-coat work. In determining the sizes of the reinforced bases allowance was made for transference of load to the old raft from the sloping sides as well as the bottom. The full thickness of the existing raft was then available for sharing the load, and the additional dispersal of the load through this raft resulted in a pressure on the subsoil below it of approximately 2 tons per square foot.

The upper surface of the reinforced concrete bases was kept at 15 in. below the future finished basement floor level so as to allow sufficient depth for the stanchion bloom bases and for the 2 in. thickness of mortar packing between their undersides and the tops of the reinforced concrete bases.

The reinforcing bars were left hooked and projecting above the top of the reinforced concrete bases, so as to obtain additional "grip" in the concrete fill to be placed under a later contract after the steel frame has been erected.

The asphalt tanking under the reinforced concrete bases required special consideration, as this asphalt would be subject to the full pressure of 6 tons per square foot referred to above. It was therefore vital that an asphalt should be used which would be capable of withstanding this unusually high pressure without "squeeze," as this would not only reduce or nullify the watertight properties of the asphalt, but would result in unequal settlement of the stanchions.

As there were little reliable data on this matter it was decided to settle the question by direct test. Three different asphalts were used in this test, which was carried out by Mr. Stanger: (a) Asphalt to B.S. 10/97. (b) Ditto, but with a 50/50 mixture of Trinidad Epure and Residual

Bitumen. (c) Natural rock asphalt. A sample of each was laid over an area 16 in. square, to a thickness of 1½ in. approximately, on separate precast concrete slabs. These were placed one on top of the other—sandwich fashion—in the testing machine, the top sample being covered with a steel plate. Exact measurements were taken of the thickness of each sample at each of the four corners. A load of 6 tons per square foot was then applied and maintained for two days, and readings were taken periodically of the thickness at each corner of each sample. The load was then increased to 8 tons per square foot and maintained for four days, and readings were taken periodically. Further readings were taken at 10 tons per square foot, maintained for two days, and 12 tons per square foot, maintained for five days.

Sample (b) gave the best results, closely followed by (c), but (a) showed a tendency to continue squeezing without further increase of load.

In the case of sample (b) the total squeeze under pressure of 6 tons per square foot was .04 in., of which .02 in. occurred immediately the load was applied.

No further squeeze occurred during the next 12 days, when the pressure was successively stepped up to a maximum of 12 tons per square foot. The initial squeeze of .04 in. was therefore no doubt due to the "taking up" of the slight unevenness of the sample as cast.

As this sample (b) successfully withstood a pressure twice as great as it would have to bear under the reinforced concrete base, this asphalt was selected as being satisfactory for the purpose.

Pipe Subway Design. *(See Figs. 2, 3, 6, 7 and 8.)*

From the point of view of structural design, the pipe subway divides itself into its three geographical sections—north, south, and centre—each presenting its own problems.

The north section (see Fig. 2) offers little difficulty in design—consisting as it does of a reinforced box section, of which the outer wall is a retaining wall to Star Chamber Court (whereas there is no corresponding balancing pressure against the east wall, which acts merely as a division wall between the subway and the "area" which will provide light to the future building). Neither wall carries any appreciable vertical load, and the problem of design was therefore simple and calls for no comment. Figs. 3 and 6 are progress photographs of this section taken during construction.

The south section (see Fig. 7) is also a reinforced concrete box section with earth pressure against the outer west wall only. In this case, however, both walls will have to carry considerable vertical loads.

The outer west wall will carry the future Cloister wall, weighing about 6 tons per foot lineal, inclusive of the subway wall itself.

The inner east wall carries the external wall of the building, and also the stanchions in this external wall. It was decided to found these stanchions on the reinforced concrete wall 5 ft. above floor, so as to allow the wall to act as a spreader beam in the north to south direction. These stanchion loads vary considerably, and when due allowance is made for the spreading action through the reinforced concrete wall, the total weight of this inner wall at subway base level varies from approximately 17 tons to 26 tons per foot run—*i.e.*, from three to four and a half times as great as the load from the outer wall.

With a simple box section this unequal loading would therefore tend to overload seriously the part of the foundation under the inner wall—and would continually tend to tilt the subway—and this effect would be further accentuated to a small extent by the unbalanced earth pressure against the outer wall.

It was therefore necessary to extend the base slab eastwards so as to make the centre of bearing on the subsoil coincide reasonably with the resultant of the vertical loads.

It will, however, be seen from Fig. 7 that the proximity of the existing raft prevented much extension of the base slab towards the east. It was therefore decided to cut away the upper part of the raft at 45 degrees and (after allowing for rendering and asphalting) to construct the reinforced concrete base to sit on this bevelled-off portion of the raft. Load from the reinforced concrete base slab would then be transferred to the old raft along this sloping surface and would be further spread through the 5 ft. thick raft. Allowing for this further spread at 45 degrees the centre of bearing on soil agreed approximately with the resultant downward loads—and the base slab was designed accordingly.

It will be noted that the inner reinforced concrete wall carrying the external stanchions is only 18 in. thick—the same thickness as the main external wall over, whereas the outer less heavily loaded wall is 2 ft. 6 in. thick, with piers at intervals

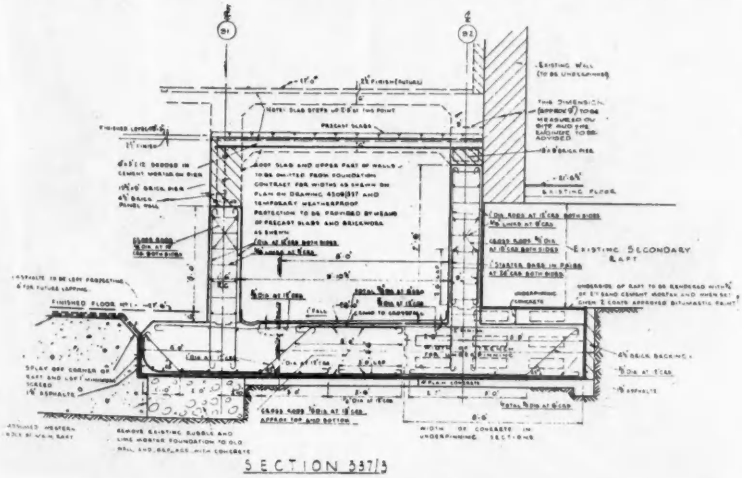


Fig. 8.—Pipe Subway.

This was to suit the lines of the future Cloister walls over (which are thick walls without steel framing).

In the centre section (see Fig. 8) the problem was entirely different. The construction here had to include for the underpinning of the existing east wall (about 24 ft. long) of the Members' Staircase, weighing about 8 tons per ft. run, the construction of the outer wall of the subway hard against this existing wall (this reinforced concrete wall having to carry two future stanchions with loads of about 160 tons each) and the construction of the inner subway wall in line with the future main wall over, with future stanchions sitting on it with varying loads up to approximately 290 tons.

As before, it was decided to found the stanchions on the reinforced concrete subway walls high enough to enable the walls to act as spreader girders in the north to south direction.

The total load per ft. lineal along the subway then amounted to 46 tons, of which 24 tons per ft. was from the east subway wall, 12 tons from the west subway wall, and 10 tons from the existing wall to be underpinned, including the concrete underpinning itself. As 2 tons per sq. ft. was considered to be the maximum safe pressure to be put on the subsoil, a base 23 ft. wide was needed with its centre of area approximately in line with the resultant of the vertical load—to avoid unequal pressure under the base. The existing raft at this point extended further west than at the south section, stopping off approximately under the line of the east wall of the subway. It was, therefore, decided to cut away the upper part of this raft down to the level of the underside of the subway base slab, and allow the latter to sit on it for a sufficient distance to obtain the required 23 ft. of spread under the foundation, after allowing for a dispersal angle of 45 deg. through the raft.

With this arrangement, the pressure under the base slab was uniform and amounted to 2 tons per sq. ft., and the raft was designed accordingly.

The actual construction of this section was complicated by the underpinning, but this is described later, when a view of the underpinning work in progress will be shown.

(To be concluded.)

German Technical Information.

In a joint statement, Sir Stafford Cripps, President of the Board of Trade, and Mr. W. A. Harriman, United States Secretary for Commerce, announce additional arrangements for the exchange of German technical information acquired by the two nations since V.E. Day. These arrangements are complementary to those already in force whereby reports on German industry and technical developments, prepared by British and American investigators respectively, are made available to the industrialists of both countries. Thousands of important German scientific and technical documents have been uncovered by British and American investigators in their respective zones, and microfilm copies have been made. Heretofore the exchange of these documents between the two nations has been imperfect; but under the present agreement representatives of each nation will be able to select from each other's storehouse of reports the items which it finds valuable. Copies will be obtained on an exchange basis. In London, the main processing centre for German documents is the Board of Trade, German Division (Documents Unit), which is located at Lansdowne House, W.1.

DEVELOPMENTS IN PRECAST CONCRETE

MODERN METHODS OF MANUFACTURE

DURING and since the war considerable progress has been made in the mechanisation of precast concrete works and in the application to this industry of the principles of mass production. There is, indeed, little doubt that in some branches of the industry British manufacturers are leading the world in speed and economy of manufacture, as will be seen from the following descriptions of two modern English factories where different types of products are manufactured.

Fig. 1 is a view of the works at Tallington, Lincolnshire, of Dow-Mac Products, Ltd., which has a daily output of 500 reinforced concrete sleepers. The factory is fully mechanised, and the total labour cost is only two man-hours per sleeper comprising 3¼ cu. ft. of concrete and 18 or 20 steel reinforcement wires. The sleepers are of prestressed reinforced concrete, and more than 50,000 have already been laid on British railways. This is, we believe, the first reinforced concrete sleeper that has successfully carried fast main line traffic anywhere in the world.

The production lines shown in the photograph are 450 ft. long. There are 20 of these production lines in the form of roller conveyors on which the moulds and sleepers are moved. The process of manufacture is as follows: First, the reinforcement wires are unwound from the spools seen in the photograph and pulled by a winch to the far end, where they are passed through holes in anchor plates and fixed with iron wedges. The other ends are temporarily fixed in the same way. Next, the ends of the wires are pulled by a winch which stretches them by about 2 ft. 3 in. The sleeper moulds are of steel, and these are filled at the middle of the production lines.

A concrete batching plant is installed at one side of the works, and the mixed concrete is conveyed by a bucket suspended from a gantry to a hopper over the casting position. The concrete is consolidated by vibration while it is being filled into the mould, and when it is full the mould and its contents are pulled along the conveyor to within a few inches of the mould previously filled. In this way a production line is filled, and work is started on the next conveyor. Fig. 2 shows moulds being assembled in the foreground and being filled farther along the conveyor. A conveyor with the tensioned reinforcement is seen to the right. When the concrete has hardened the wires are burnt off at the ends of each sleeper, and the moulds are then taken by a transverse conveyor to the side of the factory where the sleepers are lifted out of the moulds by a pneumatic hoist and placed on another conveyor which takes them to the outdoor storage area, while the mould is cleaned and oiled and returned by a transverse conveyor to the production lines. Where it is not possible to use the force of gravity for the purpose, the moulds and sleepers are pulled along the conveyors by a pneumatic winch.

KEY TO FIGURES:

Fig. 1.—Production lines 450 ft. long for prestressed reinforced concrete sleepers.

Fig. 2.—Assembling moulds and casting concrete sleepers.

Fig. 3.—Production lines for concrete slabs.

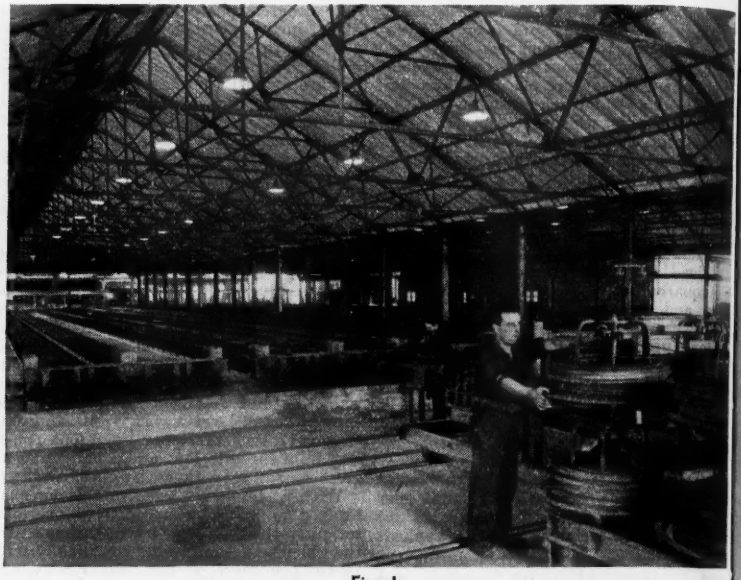


Fig. 1.

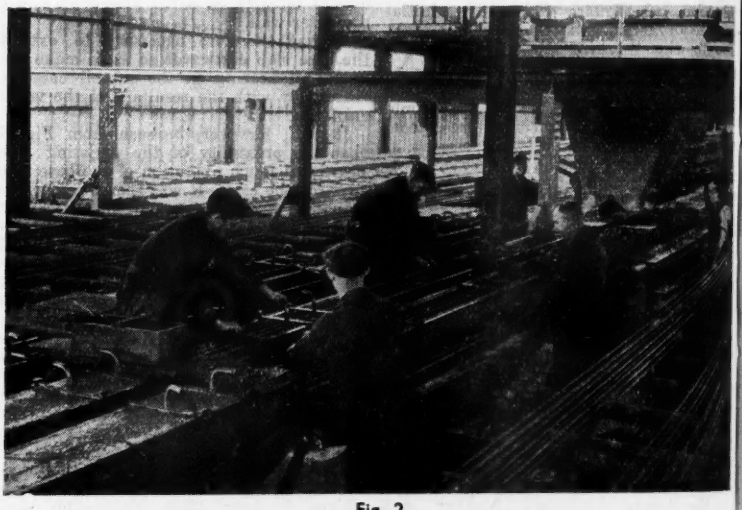


Fig. 2.

Fig. 3.

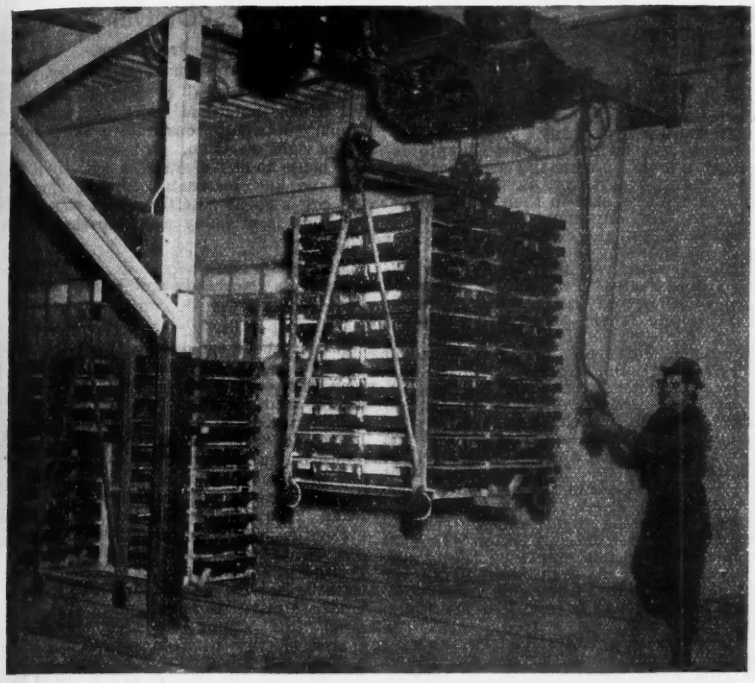


Fig. 4.—Transferring slabs from production lines to curing ovens.

The accurate proportioning that is possible with the use of a concrete batching plant, combined with vibratory consolidation, results in the production of concrete with a crushing strength of between 8,000 lb. and 9,000 lb. per square inch, and the sleepers are competitive in price with timber sleepers.

A view in a factory where precast concrete slabs are made is given in Fig. 3. This is the works at Colnbrook of Orlit, Ltd., and the hourly output is 200 wall slabs measuring 4 ft. by 1 ft. 4 in. by 2 in. thick. In this example two production lines in the form of conveyors are in use in a building 500 ft. long by 48 ft. wide, in which other concrete products for the firm's special type of concrete house are also made. As in the sleeper factory, the mould-filling position is at the middle of the production lines. The concrete is mixed in an elevated pan-type mixer and taken by a bucket suspended from a gantry to a hopper over the filling position and which can supply to both production lines.

As each mould travels along the conveyor it is stopped under the materials hopper, filled, and then allowed to continue along the conveyor.

It is next stopped over a vibrator which consolidates the concrete, and then travels on to a position under a hopper containing a special stucco face mixture which is spread over the concrete and screeded level. The slabs (in their moulds) then travel to the end of the conveyor, where they are automatically transferred to a steel stillage. The stillage is suspended from a hoist, which raises it as the slabs are passed on to it so that it is always at the correct height to receive the slabs from the conveyor. When the stillage is full it is taken by the hoist and lowered on to a track (Fig. 4) which takes it through a curing and drying oven. After about four hours in the oven, the stillage is taken to the other end of the conveyor, where the moulds and hardened slabs are passed on to the conveyor again. The passage of the slabs along the conveyor is stopped first to remove any surplus concrete from the edges of the mould, secondly to pass the slab under a scraping roller which forms a true surface and produces a texture on the concrete, and finally for the removal of the slab from the mould on to a petrol-driven truck for transport to the storage area. The labour cost at this works is only 15 man-hours per hundred slabs of the size mentioned.

ARCHITECTS' REGISTRATION COUNCIL

FIFTY-NINTH COUNCIL MEETING

THE 59th council meeting of the Architects' Registration Council was held at 66, Portland-place, W., on December 13, with Mr. Sydney Tatchell, C.B.E., F.R.I.B.A., in the chair.

The Admission Committee's report recommended the admission to the Register of 85 architects, and the rejection of 22 names. The applications of Mr. Bronek Katz and Mr. Kenneth C. Lord, which had been recommended for rejection, were referred back to the Committee for further consideration, and the other recommendations accepted.

Admission of Foreign Architects.

The Admission Committee invited the view of the Council on the following matter :—

Applications under Regulation 26 (7) can be entertained from architects who are able to prove practice before July 29, 1938, *in any part of the world*, and not merely in the United Kingdom. Such applications must be supported by six architect members of one of the constituent bodies of the Council, and the Admission Committee have an absolute discretion under the regulation to accept or reject. There is no right of appeal.

The Committee have received applications from a number of foreign architects, including refugees from Central Europe. The question arises whether an architect who produces satisfactory evidence that he was in *bona-fide* practice in his own country should be admitted; whether proof would be required of any intention to settle in this country permanently; whether evidence should be produced of knowledge of British building law and practice; and finally, whether there is a desire to exclude all foreign architects unless qualified by an examination recognised by the Council, save only those distinguished architects whose admission to the British Register would be of an undoubted value to this country.

In introducing this matter, MR. VINCENT BURR said that the matter had not reached any serious stage at the moment, and there were only 12 cases involved; but if the door were opened, the number might increase considerably, though not for ever, as applicants must prove practice prior to July 29, 1938. The Admission Committee had received applications from a number of foreign architects. He did not wish to give any lead other than to say that it would be absolutely essential that such applicants should produce evidence of knowledge of British building law and practice.

MAJOR ATHOE said it was clear in most people's minds that the Registration Acts should apply to the United Kingdom alone. The Council was now being asked to have foreign architects on the Register on the recommendation of six architects in this country who probably had never seen the work of any of these men. Another point was that the Admission Committee had turned down quite a number of architectural assistants in the Colonies merely because they had not been able to meet the technical qualification that they must have practised for at least 12 months in this country. Yet people who had been given asylum in England were claiming registration, and if the Council were to favour such people being passed we might well be flooded out.

THE REGISTRAR : The regulation is purely permissive; there is no obligation on the Admission Committee to admit any of the applicants.

MR. GORDON JACKSON said that he thought what the Admission Committee were asking was for a lead. He agreed that there might be a number of foreign architects who would be an acquisition to this country, and—provided these architects were accredited with a building practice, and had, he would suggest, three years' experience in this country—there was plenty of scope for them in this country.

MR. A. C. BUNCH said that hard cases made bad laws. If one were going all over the world for architectural experience, architecture could have no meaning with regard to English design and practice. However much we wished to be kind to aliens who came amongst us, we ought not to be sentimental and give these people an advantage over our own young folk. The only direction he would give the Admission Committee was this : We will not bar such cases altogether, but deal with every case on its merits as an individual case, and make no general rule in regard to any of them.

MR. A. L. ROBERTS reminded the Council that the main purpose of the Council was to protect the public. Subject to that, he would support Mr. Bunch's views.

COL. MATTHEWS stressed the need that the six architects who supported any application should be naturalised Englishmen.

After further discussion, THE REGISTRAR suggested that the proper form would be to request the Admission Committee to defer action until they had further considered the matter and drafted a regulation more appropriate to meet the case.

The Council signified approval of this course.

Other Reports.

The Board of Architectural Education reported that the sub-committee had been set up to consider the application for recognition of the five-year course of the School of Architecture, Auckland University College, New Zealand.

The Finance and General Purposes Committee reported that the voters' list of the "unattached" architects contained 3,730 names, and that nomination forms for the election therefrom of eight Council representatives had been issued.

MAJOR ATHOE moved an amendment to the proposition that the "gentlemen's agreement" providing for the representation of the constituent bodies on the Board of Architectural Education and the Committees of the Council to the effect that the words "leaving 14 to be freely chosen by the Council," should be amended to read "leaving 14, *not being members of the foregoing bodies*, to be freely chosen by the Council." MR. RICHARDS seconded.

Upon the Chairman promising to ask the Board to consider the proposal within the next 12 months, Major Athoe did not press his amendment.

The original proposition (proposed by Mr. Bunch and seconded by Mr. Briggs) was then carried.

The Professional Purposes Committee submitted, and the Council approved by 14 votes to 10, after discussion, the following memorandum :—

ARCHITECTS AND QUANTITY SURVEYORS

1.—Some misapprehension exists as to the line of demarcation to be drawn between the duties and responsibilities respectively of architects and quantity surveyors. This misapprehension extends also to the manner in which the payment of fees to the latter should be made. Indeed, from the representations made to the Architects' Registration Council, it would appear that the practice prevails in some parts of the country under which architects share fees charged by quantity surveyors.

2.—It is, therefore, to remove any possible misunderstanding on these matters that the following observations are submitted for information and guidance.

3.—The functions of an architect and those of a quantity surveyor, whilst they may be regarded in a sense as complementary, are quite separate and distinct in performance.

4.—The architect's duty is to prepare all the drawings, details and specifications sufficient to present to the quantity surveyor a complete picture of the work to be executed.

5.—For these services the architect is remunerated by fees based upon the Scale of Charges published by the Royal Institute of British Architects or the other constituent bodies referred to in the First Schedule of the Architects' (Registration) Act, 1931.

6.—The quantity surveyor's duty is to prepare the bills of quantities from the drawings, details and specifications so prepared by the architect and supplied to him for the purpose, so that the builder in his turn may know, before submitting a tender, precisely the nature and extent of the project and the full measure of his liabilities under the contract, and so as to ensure a common basis of tender.

7.—For this service the scales of charges laid down by the professional associations representing quantity surveyors form the basis of his remuneration.

8.—Furthermore, the quantity surveyor is entitled to charge in addition for any services rendered in advising the architect from time to time, if called upon to do so, as to the issue of certificates, for the measurement and valuation of any additions or variations on the contract, including the preparation of the final statement of accounts at completion.

9.—If these duties are properly fulfilled, no circumstances arise which would justify any arrangement between the two practitioners whereby fees are shared. Moreover, any such arrangement is thoroughly bad for the professional morale of both the architect and the quantity surveyor, is calculated to discourage that care in their work which is of the first importance, and is against the interests of the client for whom both act.

10.—It cannot be too strongly emphasised that in the "*Principles which must govern Chartered Quantity Surveyors in interpreting their Scale of Charges*," published by the Royal Institution of Chartered Surveyors, in "*The Rules of Professional Conduct for Quantity Surveyor Members*," published by the Incorporated Association of Architects and Surveyors, and in the "*Code of Professional Conduct*," sanctioned by the Architects' Registration Council of the United Kingdom, it is laid down that their respective practitioners are to be remunerated solely by the professional fees paid by the client, and are specifically debarred from any other source of remuneration, nor may they accept any work which involves the giving or receiving of any discounts, gifts, commission or other payment or consideration.

11.—It follows, therefore, that where a quantity surveyor in private practice is instructed to prepare bills of quantities, any participation by the architect in the surveyor's fees is improper and cannot be countenanced. Apart from the fact that such participation is in the nature of a secret commission which, in certain circumstances, might render the parties liable to prosecution under the Prevention of Corruption Acts, 1906 and 1916, it would, in the case of an architect, constitute an infringement of the Code above referred to, and if brought to the notice of the Architects' Registration Council might be regarded by the Discipline Committee of the Council as disgraceful conduct.

12.—Apart from the definite prohibition of sharing fees, there are other matters to which attention should be directed.

13.—In order that the client may fully understand his liabilities in respect of the payment of fees both to the architect and the quantity surveyor, it is strongly recommended that at the earliest stage the architect should acquaint his client with the scale of charges upon which his own professional fees will be based, and at the same time explain the reasons which justify and require the services of a quantity surveyor and how the fees in this respect should be paid.

The memorandum, as submitted by the Committee, contained an additional clause (No. 14), which was deleted on the motion of Mr. Darcy Braddell, seconded by Mr. Townsend :—

14.—It is recognised that in the provinces some architects prepare their own bills of quantities, for which they charge additional fees. While this is permitted, it may be urged against this practice with some emphasis that the fact that the quantities are prepared by a qualified quantity surveyor acting independently far outweighs any apparent advantage resulting from the dual functions being performed by one and the same man. The approach to the problem by an independent surveyor in co-operation with the architect serves as a valuable check on the work, and is an added security to the building owner.

Copper Development Association.

Mr. R. Wardell, a member of the Registered Plumbers' Council, has been appointed assistant building engineer to the Copper Development Association.

CORRESPONDENCE

Increasing Production.

TO THE EDITOR OF *The Builder*.

SIR,—The proposal of Messrs. Burgess and Hole, published in your issue of January 3, would constitute a start only in the right direction.

A house to-day of 1,000 sq. ft. (if it is to have any reasonable internal finish) will cost a client £1,400 without the land. This sum is probably made up thus :—

Labour	£600
Materials	£600
Builder's Overheads and Profit	£200
	£1,400

If the labour could be reduced to £300 and all the saving passed on to the client, then the cost to the latter would be £1,100, and when materials can be similarly reduced the cost will be £700.

Provided workmanship and fittings improve far beyond what is possible at any price to-day, house-building will then have returned to its pre-war condition of being "the best of value for money."

For the present, however, the most that can be expected from a scheme of increased production on site is that labour costs be halved, i.e., from £600 to £300. Under Messrs. Burgess and Hole's proposal this saving of £300 would be shared equally between operatives, contractor and client, i.e., the cost of the £1,400 house referred to above would become £1,300, made up thus :—

Labour ...	£400	(£300+£100 bonus)
Materials	£600	
Builder's Overheads and Profit	£300	(£200+£100 bonus)
	£1,300	

So far as clients are concerned this would be no more than a step in the right direction, and before the housing problem even approaches a solution the building industry as a whole has got to do considerably better.

DONALD H. LITTLE,
Chartered Civil Engineer.

House Production.

TO THE EDITOR OF *The Builder*.

SIR,—On page 691 of your issue of December 27, Ministry of Labour figures of persons employed in the building and civil engineering industry in October, 1946, are quoted as 1,250,000, compared with 1,310,000 in mid-1939. From published tenders, £1,250 would seem to be an average price for the type of local authority traditional house now being erected, to which may be added, say, 10 per cent. for roads and services.

Applying the frequently used formula to these figures, that one man with the necessary materials, etc., carries out £50 value per month, and assuming that 60 per cent. of the total force is employed on new house construction (which has been publicly stated to be Government policy), leaving 40 per cent. for all other work, it would appear that 327,272 houses of a traditional type could be erected in the next 12 months if the material position allowed.

In practice, since all the houses will not be traditional, but many will be of one or other of the prefabricated types, involving less site labour, the number should be considerably increased.

Even so, such figures compare very unfavourably with pre-war ones. Clearly the reason cannot now be lack of manpower.

WM. C. WALKER.

Oxford.

SOCIETIES & INSTITUTIONS

R.I.B.A.

Council Minutes.

FOLLOWING are notes from the minutes of the R.I.B.A. Council meeting held on December 10 :—

The Honorary Fellowship.—The Secretary reported that the Rt. Hon. the Earl of Crawford and Balcarres (Hon. A.) has accepted nomination as an Honorary Fellow.

Proposal to appoint an Architectural Science Board Correspondent in each of the areas of the Allied Societies.—The Secretary reported that the proposal of the Architectural Science Board to appoint a correspondent in each of the areas of the Allied Societies had been approved in principle by the Allied Societies' Conference, but that they were of opinion that the question of the actual appointment of a correspondent should be a matter for consideration by each Allied Society. It was agreed that the Allied Societies should be advised accordingly.

International Reunion of Architects, 1946.—The Secretary submitted a letter dated November 25, 1946, from Sir Patrick Abercrombie (F.), President, British Committee International Reunion of Architects, expressing on behalf of his colleagues their thanks to the Institute for the hospitality extended to the foreign delegates on the occasion of the recent International Conference in London.

Examination for the R.I.B.A. Diploma in Town Planning.—On the recommendation of the Board of Architectural Education, the Council agreed that the Degree Course in Town and Country Planning at the University of Durham be recognised for exemption from the Examination for the R.I.B.A. Diploma in Town Planning.

School of Architecture, Sir J. J. School of Art, Bombay: Appointment of R.I.B.A. Representative on the Government Board of Examiners.—The Council had before them a report of the Board of Architectural Education indicating that as a matter of urgency they had approved the appointment of Mr. Claude Batley as R.I.B.A. representative on the Government Board of Examiners of the Bombay School of Architecture in place of Mr. H. J. Billimoria.

The Dundee School of Architecture.—On the recommendation of the Board of Architectural Education the Council agreed that the recognition of the three years' full-time course and the four years' part-time course at the Dundee School of Architecture for exemption from the R.I.B.A. Intermediate Examination be continued under the usual conditions.

The Hull School of Architecture.—On the recommendation of the Board of Architectural Education, the Council agreed that the recognition of the three years' full-time course at the Hull School of Architecture for exemption from the R.I.B.A. Intermediate Examination be continued under the usual conditions.

The Oxford School of Architecture.—On the recommendation of the Board of Architectural Education the Council agreed that the recognition of the three years full-time course at the Oxford School of Architecture for exemption from the R.I.B.A. Intermediate Examination be continued under the usual conditions.

R.I.B.A. Henry Jarvis Studentship (£50), *Architectural Association School of Architecture,* 1946.—The Council had before them a report of the Board of Architectural Education indicating that the R.I.B.A. Henry Jarvis Studentship at the Architectural Association had been awarded to Mr. F. S. Knight.

R.I.B.A. (Archibald Dawnay) Scholarships.—The Council had before them a report of the Board of Architectural Education indicating that an R.I.B.A. (Archibald Dawnay) Scholarship of £65 for the year 1946-47 had been awarded to Mr. D. W. Fletcher.

R.I.B.A. Maintenance Scholarships.—The Council had before them a report of the Board of Architectural Education indicating that R.I.B.A. Maintenance Scholarships for the session 1946-47 had been awarded as follows : (1) the R.I.B.A. 4th and 5th Year Maintenance Scholarship (value £60 per annum) to Mr. J. S. Miller. (2) the Howe Green 4th and 5th Year Maintenance Scholarship (value £40 per annum) to Mr. A. J. Mellor. (3) *The Builder* Maintenance Scholarship (value £60 per annum) to Mr. E. Sheard. The Maintenance Scholarships awarded to the following candidates had been renewed for a further period of one year : (1) Mr. G. S. Cornelius-Wheeler (Bartlett School of Architecture, University of London—R.I.B.A. Houston Maintenance Scholarship of £125 per annum). (2) Mr. H. W. D. Burgess (Welsh School of Architecture, the Technical College, Cardiff—R.I.B.A. Houston Maintenance Scholarship of £125 per annum). (3) Mr. P. T. Barefoot (Architectural Association School of Architecture—R.I.B.A. Houston Maintenance Scholarship of £100 per annum). (4) Miss A. P. Broughton (Architectural Association School of Architecture—Ralph Knott Memorial Maintenance Scholarship of £45 per annum).

Resignations.—The following resignations were accepted with regret : C. H. E. Bridgen (F.), A. F. Mackenzie (F.), G. T. Dyson (A.), H. Hyland (L.), D. M. Mackie (L.).

Applications for Transfer to Retired Members' Class under By-law 15.—The following applications were approved : As Retired Fellows—A. Ashton, H. P. B. Downing, N. Elliot, F. G. Hicks. As Retired Associate—C. W. Davis. As Retired Licentiates—A. Boulton, H. S. Porter, M. Tobias.

ARCHITECTURAL ASSOCIATION

Scholarships in Architecture, 1947

The Council of the Architectural Association offers the following scholarships in architecture :—

Entrance Scholarships.—The Leverhulme Scholarship,* value £200 per annum; the Minter Open Entrance Scholarship, value £90; the Sir Walter Lawrence Open Entrance Scholarship, value £90; the Metal Window Scholarship, value £75 per annum (presented by the British Metal Window Manufacturers' Association, Ltd.); the Natural Asphalte Council Scholarship, value £50 per annum (presented by the Natural Asphalte Mine-Owners' and Manufacturers' Council); the Northern Aluminium Scholarship, value £50 per annum (presented by the Northern Aluminium Company); the Patent Glazing Scholarship, value £50 per annum (presented by the Patent Glazing Conference).

These scholarships, which are tenable for five years at the A.A. School of Architecture, will be available to students of British nationality. They will be awarded for one year, with the intention that they shall be renewed from year to year until the student has completed the course; renewal being subject to a satisfactory report of the student's progress, and to proof of the continued need for such assistance.

Senior Entrance Scholarship. — The Metal Window Senior Scholarship, value £50 per annum (presented by the British Metal Window Manufacturers' Association, Ltd.). This scholarship, which is tenable for two years at the A.A. School of Architecture, is open to students of British nationality who have passed the Intermediate Examination of the R.I.B.A., either externally or at another recognised school of architecture, and is for entry to the fourth year of the course, and subject to satisfactory progress by the student, will be renewed for the fifth year.

Full particulars and forms of application may be obtained from the Secretary of the Architectural Association, 36, Bedford-square, London, W.C.1, and forms of application should be received not later than April 1, 1947, for all except (*) (June 1, 1947).

"THE CONTRACT SYSTEM IN CIVIL ENGINEERING"

A Correction.

In our recent article under this heading it was stated that "while there is no standard form such as that published by the Royal Institute of British Architects for the use of the building industry . . . yet the Federation of Civil Engineering Contractors and the Institution of Civil Engineers, in 1930, agreed on general conditions of contract which, as far as possible, should be adopted as the basis of the contract agreement." The reference to the Institution of Civil Engineers should read "the Association of Consulting Engineers." We regret that the above statement is incorrect inasmuch as the Institution of Civil Engineers and Federation of Civil Engineering Contractors have recently agreed upon a "Standard Form of General Conditions of Contract." We are glad to state that this Form has already secured a wide measure of approval and adoption during the short period of its existence.

As mentioned in Report No. VII, this Standard Form is obtainable from the bodies mentioned above at the price of 2s. 6d. per copy.

LAW REPORTS

TENANT'S RIGHT TO COMPENSATION FROM LANDLORD FOR MISREPRESENTATION INDUCING VACATION OF HOUSE AND SO ENABLING LANDLORD TO SELL WITH VACANT POSSESSION

COURT OF APPEAL.
Before Lords Justices SCOTT, BUCKNILL and SOMERVELL.

Thorne v. Smith.

The question to be decided in this case was whether the plaintiff, the former tenant of a dwelling-house of which the defendant was the landlord, was entitled to recover compensation against the landlord on the ground that he (the tenant) had been induced to agree to a consent order being made in favour of the landlord that the house should be vacated upon the representation that the landlord required the house for his own occupation, whereas defendant, instead of occupying the house, had put it into the hands of estate agents and sold it with vacant possession.

The material facts were as follows:—In September, 1945, Mr. Smith, the defendant (as landlord) filed a claim in the County Court for the purpose of recovering possession of his house upon the ground that the tenancy had been brought to an end by a notice to quit which expired in July, 1945. Mr. Thorne as the then tenant disputed the claim alleging that Mr. Smith did not reasonably require the house for his own occupation and that if the order were made greater hardship would fall upon him than upon Mr. Smith if it were refused. When the case came before the County Court judge, Mr. Thorne agreed to a consent order being made in favour of Mr. Smith as the landlord, and Mr. Thorne accordingly vacated the house on March 2, 1946. Mr. Smith, after inspecting the house, put it into the hands of estate agents, and in April, 1946, it was sold with vacant possession. In these circumstances Mr. Thorne applied to the County Court judge under Section 5 (6) of the Rent Restriction Act, 1920, to recover compensation against Mr. Smith on the ground that he (Mr. Thorne) had been induced to agree to the order vacating the house on Mr. Smith's representation that he wanted the house for his own occupation. The Act provided that if it should appear to the Court that an order or judgment for possession or ejectment was obtained by misrepresentation or concealment of material facts the Court might order the landlord to pay to the former tenant such sum as was sufficient compensation for the damage sustained by the tenant as the result of such order or judgment.

The County Court judge refused the application upon the ground that the misrepresentation referred to in the Sections of the Act of 1920 meant misrepresentation to the Court and not to the tenant, and from this result the plaintiff, Mr. Thorne, now appealed. The Court allowed the appeal.

Lord Justice Scott, in giving judgment, said that in his opinion the appeal succeeded. Apart from the provisions of the Act a tenant could, if a representation were fraudulent, have brought a common law action for damages for deceit, and any consent judgment would have been no defence. Even if the misrepresentation were innocent the tenant had the right in equity to have had the consent judgment set aside. In the present case the order of the County Court was undoubtedly caused by the misrepresentation of the landlord, and therefore fell within the words of sub-section 6 of the Act. In his opinion the appeal should be allowed. The Court concurred and the appeal was accordingly allowed with costs.

Mr. R. G. Micklethwait and Mr. S. O. Olson appeared for the plaintiff, Mr. Thorne, and Mr. Cecil Havers, K.C., and Mr. Anthony Jessel for the defendant.

ESTATE TRUSTEES' APPEAL

KING'S BENCH DIVISION.
Before MR. JUSTICE MORRIS.

The Minister of Health v. The Trustees of the Beaumont Estate.

In the King's Bench Division of the High Court, Mr. Justice Morris had before him an appeal to quash a compulsory purchase order obtained by the London County Council, and confirmed by the Minister of Health, to acquire some 11 acres owned by the Trustees of the Beaumont Estate, under the County of London, Ocean-street, Stepney, Housing Order, 1945.

The Trustees, who appealed on the ground that the confirmation of the Order was not within the powers of the Act of 1945 and that the requirements of the Act had not been complied with, which laid down that the local authority should not be authorised to purchase land for the purpose of housing accommodation for the working-classes, unless it applied to the Minister that it would be used within a period of ten years.

It was contended by the Trustees that no indication was given as to how long the scheme would take, and no suggestions were made that it was likely that the developments would be made within the 10 years following the Order. It was also urged that though the confirmation order was based on the inquiry, letters which had passed between the London County Council and Minister of Health had been taken into consideration. They had not been disclosed to the trustee, who had no opportunity at the inquiry of cross-examining on the information they contained.

For the Minister of Health it was submitted that he had to be satisfied that there would be substantial development of the land within the ten-year period. It was further argued that the Minister of Health in his administrative capacity had acted on the evidence and other matters.

His lordship dismissed the appeal, with costs, upholding the contentions of the Minister of Health. With regard to the letters, he was satisfied that no prejudice of any kind resulted to the appellants with regard to the letters not being produced for their inspection.

KING SLIDING DOOR GEAR

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WELSH INDUSTRIES FAIR

FIRST TIME IN LONDON

THE Welsh Industries Fair opened in London for the first time on Wednesday, January 1, when the Rt. Hon. Viscount Portal formally declared the Fair open at the Royal Horticultural Halls, Westminster.

The Fair has been previously held in Cardiff, and the change to a London venue provided the first real opportunity to show the country at large how many new industries have become established in Wales since the great pre-war drive to provide alternative employment to the traditional heavy industries. The exhibits, provided by 83 firms and organisations, gave ample evidence of the rapidity of change from war-like production to peace-time manufacture, and spoke volumes for the adaptability of the erstwhile Welsh mining community to light industrial and manufacturing activities.

Seventy of the firms exhibiting were manufacturers, and of these 54 were newcomers to the Principality, *i.e.*, have become established there in the last 10 years, many of them being tenants on the trading estates which were started before the war under the Special Area Development schemes.

Although the Fair was primarily for wholesalers, almost everything on view is in production, and purchasers could place orders for transmission to the customer's own retailer; alternatively, prospective customers were given the names of retailers who are being supplied with the desired product direct. The Fair closed on January 7.

Some of the Stands.

Among the exhibitors those of interest in the building industry were:—

BRITISH ELECTRICAL DEVELOPMENT ASSOCIATION, 2, Savoy Hill, W.C.2. This stand showed examples of the sort of service provided by the E.D.A., and drew attention to lectures, lantern slides, films and other devices used by the Association for spreading information to help the public to an appreciation of electricity service "properly applied."

RICHARD COSTAIN AND CO., LTD., Dolphin-square, London, S.W.1. This building and civil engineering firm carried out extensive works during the war years on Government sites in Wales, and is now engaged on a most varied house-building programme for the erection of steel and precast concrete permanent prefabricated houses. The firm is also constructing several factories in South Wales.

DURUS CAST STONE CO., LTD., Cowbridge-road, Bridgend, Glamorgan. Apart from its part in the manufacture of Airey houses, a design of precast concrete units manufactured in precision steel moulds, precast concrete in all forms is being produced extensively by the firm on a 12½ acre works site.

FISHER AND LUDLOW, LTD., Gridway Division, Rolfe-street, Smethwick, Staffs. This firm exhibited a full-scale working demonstration of the "Flowline" Conveyor System, showing how conveyors can be built up from the standard interchangeable units. In addition to the conveyor at work, separate units were shown to facilitate an examination of the method of construction. Examples were also given of the various industries served by the "Flowline" system.

GUEST, KEEN AND NETTLEFOLDS, Castle Works and Rolling Mills, Cardiff. The supply of steel reinforcing bars for concrete construction being a speciality of the

firm, a prominent corner position on the stand was devoted to the full-sized steel bar reinforcement for an 18 in. octagonal ferro-concrete column. There was also a display of cold rolled strip and a nail-making machine in actual production at the rate of 700 nails a minute.

TRADE NEWS

A Christmas Party.

Messrs. Bovis, Ltd., and their associate company, Compactom, Ltd., held a successful Christmas party in the gaily decorated canteen at their works in Oxgate-lane on Friday, December 20. After tea, over 350 staff, employees and guests, enjoyed an excellent concert, which was followed by dancing.

Building Firm's Dinner.

On December 20, the directors of Messrs. Dunham Builders, Ltd., 69, Victoria-street, St. Albans, entertained the staff at the London Coliseum, and afterwards at the Hungaria Restaurant, where dinner was presided over by the managing director, Mr. A. E. D. Smith, supported by Mr. Chris. Dunham

Offices in Birmingham.

In order to facilitate the location of plywood stocks in the Birmingham area, the National Plywood Corporation, Ltd., of Carpenters-road, Stratford, London, have opened offices at 114, College-road, Moseley, Birmingham 13. This is a temporary address for use until other accommodation is available. Mr. E. O. Duggan is in charge, and Mr. G. H. Burr is sales representative.

A Staff Dinner.

The annual staff dinner of A. E. Symes, Ltd., building and civil engineering contractors, of Brentwood, Stratford and London, was held on Saturday, December 21, 1946, at the Connaught Rooms, Kingsway. Some 150 members were present and the guests included a number of architects, borough engineers and surveyors. Also present was Mrs. A. E. Symes, widow of the late Mr. A. E. Symes who founded the business in 1892. The dinner was followed by an entertainment.

A Standard Code.

A Code of test for unit heaters operating on steam is laid down in a booklet entitled "Standard Code for Testing and Rating Unit Heaters using Steam," recently published by the Unit Heaters Manufacturers' Association, 23, Queen-square, London, W.C.1. Its purpose is to ensure that all unit heaters manufactured by members of the Association will be tested in accordance with the Code and the ratings shown in the catalogues of member firms will all be calculated in a similar manner. Codes of test for unit heaters operating on other heating media will be issued in due course.

A Timber Ready-Reckoner.

Now that in all timber licence applications the quantity of timber required has to be quoted in terms of standards, of invaluable aid and interest is the recently published "Ware" Ready-Reckoner. This useful booklet, which has been prepared by the Scientific Computing Service, Ltd., and published by Messrs. W. C. Ware and Sons, Ltd., timber merchants and importers, 6-8, Kennington-lane, S.E.11, provides an at-a-glance method of translating from the more generally used dimensional specifications into standard quantities. It forms a most comprehensive and practical reference work of its kind, and the publishers, who undertook its publication as part of their service to architects, builders and joinery manufacturers in London and the Home Counties, will be glad to receive applications for copies.

STANDING TIMBER PRICES

BOARD OF TRADE ORDER

STRONG representations have been received by the Board of Trade that the maximum prices for standing timber, which were fixed by Order at the outbreak of war and have not been changed since, should be increased to cover increased costs of maintenance and replanting.

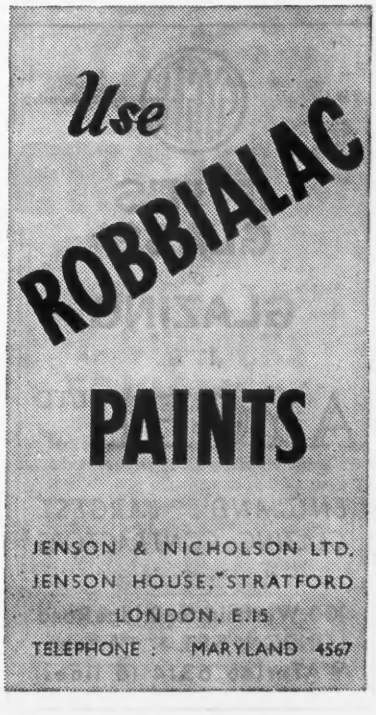
The Board of Trade now announce that after full consideration of these representations they have made an Order* which will provide increased maximum prices for standing timber. The Order came into force on January 2, 1947, and provides for an increase of 25 per cent. in the maximum prices of growing trees sold for felling and appropriate higher maximum prices for home-grown timber in the log. The need for home-grown timber of all kinds is still great; over half the available supplies of hardwoods are home produced.

The adjustments corresponding to the increased maximum prices of growing trees will be incorporated in revised maximum prices of home-grown mining timber and home-grown converted timber. It is expected that these will be published and brought into force within the next month.

Lead: A Recent Booklet.

Intended primarily for the use of plumbers and those engaged in the distribution of lead sheet and pipe, "Concise Information on Lead Pipe and Lead Sheet," a useful reference booklet, has been recently issued by the Lead Industries Development Council, 25, Lower Belgrave-street, London, S.W.1. The foreword draws attention to the re-establishment, following the economies necessitated by the war, of lead as an important material in building work and the development of new lead alloys that effect considerable economies in the substance of the pipe or sheet, thus making available a larger quantity of both these materials for use.

* S.R. & O., 1946, No. 2159, price 1d., through any bookseller or newsagent, or direct from H.M. Stationery Office, Kingsway, London, W.C.2, and branches.



COMPARATIVE PRICES OF MATERIALS

	Jan. 1939. £ s. d.	Jan., 1946. £ s. d.	Jan., 1947. £ s. d.
Flettons	2 6 3	3 10 0	4 5 0
Blue wire cuts ..	7 4 0	12 7 0	13 6 6
Glazed	24 0 0	36 0 0	40 0 0
Thames ballast ..	7 3	11 6	12 6
Pit sand	7 9	12 0	13 0
¾ in. shingle ..	7 3	12 0	13 0
¾ in. broken brick	11 3	16 0	17 3
Portland cement	2 2 0	3 4 0	3 2 0
Portland stone	4 5	4 7½	4 7½
Building timber—			
Minimum ..	22 0 0	47 0 0	47 0 0
Maximum ..	23 10 0	58 0 0	58 0 0
Slates—			
24 in. by 12 in.	31 5 0	55 2 6	59 2 6
20 in. by 10 in.	20 15 0	36 0 0	38 11 3
16 in. by 10 in.	14 7 6	25 15 0	27 12 0
Tiles—			
Machine made	4 2 6	7 16 0	8 4 0
Hand made ..	4 17 6	8 10 0	9 1 9
R.S. joists ..	16 10 0	24 0 0	27 10 0
Sheet lead ..	23 0 0	42 10 0	85 0 0
Linseed oil ..	2 11	7 8	15 6
Ground English white lead ..	2 10 0	3 13 9	5 7 9
White lead paint gals.	16 8	1 13 0	2 1 4
Red lead ..	1 18 0	2 17 0	4 10 9
Glass—			
18 oz. sheet ..	2⅜	3⅜	3⅞
24 oz. sheet ..	3⅛	5	5¼
26 oz. sheet ..	4½	6½	6½

COPPER, LEAD AND ZINC

NEW SELLING PRICES

THE Minister of Supply has made the Control of Non-Ferrous Metals (No. 26) (Copper, Lead and Zinc) Order, 1946, which came into force on January 1, 1947.

This Order revokes the Control of Non-Ferrous Metals (No. 25) (Copper, Lead and Zinc) Order and increases the maximum prices of copper, lead, zinc and zinc products as follows: Copper by £19 per ton; Lead by £15 per ton; Zinc by £15 per ton; Zinc Sheets by £15 per ton; Zinc Oxide by £12 15s. per ton.

The price of high-conductivity electrocopper is, therefore, increased from £98 to £117 per ton; of good soft pig-lead (Empire and domestic) from £55 to £70 per ton; and of zinc (g.o.b. domestic and prime western) from £55 to £70 per ton. Prices for other forms of these metals are correspondingly adjusted. The price of zinc sheets is increased from £66 2s. 6d. to £81 2s. 6d. per ton ex works, and for red seal zinc oxide from £56 to £68 15s. per ton delivered, with a similar increase for the other forms of zinc oxide.

"The above increases," states the Board of Trade Journal, "reflect the recent sharp upward movements in metal prices which have taken place outside the United Kingdom, and which in turn affect the purchase prices paid by the Ministry."

Holders of outstanding licences granted on or before December 31, 1946, will only be covered at the new prices now in force. The new Order further releases hot-rolled copper-wire rods from acquisition and disposal licensing.

Inquiries should be addressed to the Directorate of Non-Ferrous Metals, 20, Albert-street, Rugby. Copies of the Order (S.R. & O. 1946, No. 2205, price 1d.) may be obtained through any newsagent or bookseller, or direct from H.M. Stationery Office, Kingsway, London, W.C.2, and branches.

British Firm's Egyptian Contract.

Messrs. Dorman Long and Co., Ltd., Middlesbrough, have received a contract for building a railway bridge over the River Nile in Egypt at Kafr el Zayat, for the Egyptian State Railways. The firm's tender was £570,193. The bridge will carry two railway tracks, and will comprise six fixed steel spans each 230 ft. long and a swing span of 230 ft. The steel will be fabricated on Teeside.

NEWS ITEMS

Building Science Abstracts.

The Building Research Station, Watford, of the Department of Scientific and Industrial Research, has published Building Science Abstracts Nos. 1866-2043. Copies, price 1s. 6d., are available at H.M. Stationery Office, York House, Kingsway, W.C.2.

£14,000,000 Town.

Mr. C. W. Clarke, Surveyor to the Easington Rural District Council, has prepared a report on the provision of a new town within the next 22 years, estimated to cost £14,000,000. During the next 10 years the Council intends building 3,904 houses and a further 5,416 houses in the succeeding 10 years.

Standard Sizes for Copper Tubes.

To facilitate production of copper tubes for housing purposes, manufacturers are urging buyers to order standard sizes for water, gas and sanitation pipes. At a meeting in Birmingham on Tuesday, January 7, Mr. A. S. Hollings, chairman of the Brass and Copper Tube Association, stated: "We are hoping to secure the co-operation of all concerned with building in concentrating on standard sizes. By using standard sizes there will be a saving on the cost of tube, stocking will be easier, and so will installation work, since tubes of standard size take standard fittings. The initial saving of cost effected by ordering to B.S.S. 659/1944, even over the old B.S.S. 659/1936, is sometimes as much as 15 per cent."

Acquisition of Tin Metal.

The Ministry of Supply has revised the licensing procedure for the acquisition of tin metal. Applications for licences to acquire tin metal will, as from January 1, 1947, only be granted if accomplished by the following *signed* declarations: (1) "We certify that the quantity requested on the accompanying application is needed to cover orders for our products, and that in the case of applications for virgin metal full allowance has been made for our expected intake of scrap." (2) "We certify that, in respect of tin metal, our existing stocks, plus our outstanding purchases, plus the tonnage now being applied for, will not exceed four months' consumption at our average monthly rate of consumption in September and October, 1946."

Masonry Walls with Ashlar Facing.

The Codes of Practice Committee has issued for comment Code 1,321, "Masonry walls with natural and cast stone ashlar facing." This code, which has been prepared by a committee convened by the Royal Institute of British Architects, deals with the materials, design and erection of masonry walls with ashlar facing of natural and cast stone for external walling, and party walls. It is a companion publication to Code 1.31, "Brickwork," issued for comment in May, 1946, and to several other codes now in course of preparation, dealing with rubble masonry, cement concrete walls cast *in situ*, and weather-resisting cladding. The list of definitions included in Section 1 is comprehensive, and the clauses on exchange of information and time schedule are dealt with fully. Section 2 covers the range and selection of materials mentioned in the code with reference to relevant British Standard Specifications, while Section 3 gives design considerations. Work off site and work on site are dealt with in Sections 4 and 5 respectively. The Code contains many diagrams indicating good practice in the construction of damp-proof courses for masonry walls. Comments are invited and will be welcomed and should be forwarded by January 27 next. Copies may be obtained from the British Standards Institution, 28, Victoria-street, London, S.W.1, price 3s. 6d., post free.

PRICES OF MATERIALS.

Brass and Copper Tubes.—Brass and Copper Tube Association, King Edward House, New-street, Birmingham, state in consequence of the increases in the controlled prices of copper and zinc recently announced, the basic prices of brass and copper tubes are increased on and after January 1 as follows: Copper tubes increased by 2½d. per lb.; brass tubes increased by 2⅜d. per lb. The basic prices will therefore be: Copper tubes, 20⅜d. per lb.; brass tubes, 20⅜d. per lb.

Sheet Lead.—The price of sheet lead has been increased to £85 per ton and that of pipe lead to £86 per ton.

Cornish Slates.—Following an application made by the Cornish Slate Quarries Regional Committee, the Minister of Works has authorised an increase in the present selling prices of 2½ per cent.; this increase is to operate as and from December 23, 1946.

Tungsten Ore.—The Ministry of Supply announces that as from January 1, 1947, the issue price of tungsten ore of standard grade will be increased from 70s. to 75s. per unit of WO_3 delivered consumers' works. For special high-grade scheelite to the following specification—WO_3 minimum 68 per cent., tin maximum 0.60 per cent., arsenic maximum 0.10 per cent., molybdenum maximum 0.10 per cent.—the price will be 80s. per unit WO_3 delivered consumers' works. Any inquiry should be addressed to Ministry of Supply (M2), Shell Mex House, London, W.C.2.

Paint Settlement Terms.

The National Paint Federation announces that, as from January 1, 1947, settlement terms are to be 2½ per cent. monthly account, thereafter nett.

Control of Iron and Steel.

The Minister of Supply has made the Control of Iron and Steel (No. 55) Order, which came into force on January 1. The Order amends the maximum prices of certain steel products, the principal alterations being increases in the price of wire ropes, brake cable, tinned steel wire, and high carbon cold rolled strip; the Order reduces the quantity of conduit tubes that may be required without licence; and releases shell steel discards from price control. It is also announced that the Ministry of Supply, as from January 1, will sell silicon metal of 97 per cent. purity at £97 per ton delivered—irrespective of quantity.

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Calendars, 1947.

We gratefully acknowledge receipt of calendars for 1947 from the following: Messrs. Decorative Painting Contractors, Ltd., Staines-road, Hounslow; Messrs. Decra, Ltd., Hanbury-road, Acton, W.C.3; Messrs. A. E. Farr (Plant Hire), Ltd., Westbury, Wilts; the Ribblesdale Cement Co., Ltd.; Messrs. Sims and Russell, Ltd., 7, Bloomsbury-street, S.W.1; and Messrs. Ashwell and Nesbit, Ltd., London.

Also a desk diary from Messrs. Fisons, Ltd., Brick Department, Ipswich.

A Booklet on Insulation.

The Ministry of Fuel and Power has produced a new booklet, "You Amaze Me, Young Man," which should appeal to all concerned with the ownership, design and management of industrial buildings, particularly factories of the "steel frame" type covered with thin, highly heat-conducting materials. The theory and practice of structural insulation are illustrated with examples, photographs and humorous sketches, and the booklet also contains advice on methods of insulation suitable for both new and existing buildings, demonstrating how, by using simple measures of structural insulation, it is possible at once to save money, provide better working conditions and reduce demands on available fuel supplies. Copies can be obtained free of charge from the Regional Offices of the Ministry of Fuel and Power.

A New Year Edition.

The New Year number of "Cubitts' News," issued by Messrs. Holland and Hannen and Cubitts, Ltd., Liverpool, is an enlarged edition of this news bulletin with New Year messages from prominent professional men of the north-western area in which the firm operates. Messages are printed from Mr. James Holt, A.M.Inst.C.E., M.Inst.M. & Cy.E., Borough Engineer and Surveyor, Widnes; Mr. F. Charles Saxon, F.R.I.B.A., F.S.I., Architect and Surveyor to the Chester R.D.C. for the Christleton Housing Scheme; Mr. H. Anthony Clark, L.R.I.B.A., Borough Housing Architect (Borough of Wrexham), and Mr. D. E. Edwards, P.A.S.I., Engineer and Surveyor to the Wrexham R.D.C. A new heading to the "News" depicts a line drawing of the Cenotaph, which was built by the firm, its inclusion in the weekly publication being intended as a symbol of the firm's aim to translate into action some of the hopes and human longings which were so deeply felt when the nation's Memorial was erected.

WOOD BLOCK FLOORING FOR HOUSING

Following correspondence extending over the last three months or so, the Philip Flooring Co., flooring specialists, 55, East End-road, Finchley, N.3, have been informed by the Ministry of Health that no objection will be raised to the laying of wood block floors in houses provided the total timber used per house does not exceed the 1.6 standards allowable. This intimation follows correspondence entered into by the company with the Ministry following the issue of an order by the Ministry to local authorities stating "In all cases local authorities should henceforth issue the building licence with a condition to the effect that the use of timber for the construction of the ground floor of the dwelling is prohibited, and that the type of flooring material used shall be as specified by the local authority."

The argument subsequently submitted by the Philip Flooring Company to the Ministry was that the prohibition of the use of timber for the construction of the ground floor of houses referred to joists and that there was no reason why wood block flooring should not be laid so long as the total cubage of 1.6 standards per house was not exceeded.

THE SCOTTISH BUILDER

NEW BUILDINGS

Chapelhall.—Plans prepared for factory block, boiler-house, gas-house, and alterations and additions to block, for which the architects are Wylie, Shanks & Wylie, 204, West Regent-st., Glasgow.

Glasgow.—Alterations and additions proposed for Gilmour & Dean, Ltd., North Hanover-st., at 91 to 97, Fordnent-st., for which the architects are John Laird & Son, 87, St. Vincent-st., Glasgow.

Glasgow.—Corporation school proposed at Whitehill-st., for which the architect is John MacNab, 129, Bath-st., Glasgow.—Alterations and additions proposed at Argyle-st., for Muir & Sons, for which the architect is J. W. Reid, 79, West Regent-st., Glasgow.

Glasgow.—Corporation to erect school at Killin-st., for which the architect is John MacNab, 129, Bath-st., Glasgow.—Alterations and additions proposed at Stromness-st., for Everest Bedding Co., Ltd., for which the architect is Magnus Duncan, 243, Eglinton-st., Glasgow.

Glasgow.—New buildings proposed for John Broadfoot & Sons, Ltd., at Terryden-st., for which the architects are P. & R. Fleming, Keith-st., Glasgow.—Garage, etc., proposed at Helen-st., for the Northern Roadways, Ltd., for which the architect is James Wallace, 5, High-st., Rothesay.—Reconstruction and additions proposed at the Clydeside Cabinet Works, Elliot-st., for which the architect is A. W. MacDonald, 13, Kingsley-av., Glasgow.

Newhouse.—Plans in hand for factory block, for which the architects are Wylie, Shanks & Wylie, 204, West Regent-st., Glasgow.

Ringside.—Lanarkshire C.C. to erect housing scheme, for which the architect is Samuel MacColl, Albert-st., Motherwell.

FUTURE CONSTRUCTION

CONTRACTS OPEN

For some contracts still open but **not** included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

JANUARY 14.

†***Sunbury-on-Thames U.D.C.**—47 houses at 3 sites. E. and S. Dep. £2 2s. Tenders by February 2.

JANUARY 17.

Atcham R.D.C.—22 houses at 2 sites. S., 24, St. John's-hill, Shrewsbury.

†***East Suffolk C.C.**—Canteen kitchen and dining-room at Parham Voluntary school. E. J. Symcox (F.), County A. Dep. £2 2s. Tenders by February 7.

JANUARY 18.

Hyde T.C.—8 bungalows at Rufford-ave. site. B.S. Dep. £3 3s.

JANUARY 20.

Bradfield R.D.C.—(1) Access road; (2) 8 Airey houses at Bucklebury (Roundfield) site. W. Jones, C. Dep. £2 2s.

Durham County Standing Joint Committee.—2 pairs of police houses at Chester-le-Street North End. County E., S. and Architect.

†***Enfield U.D.C.**—18 flats at Russell-road site. E. and S. Dep. £2 2s. Tenders by February 14.

Glanford Brigg R.D.C.—38 houses at Winterton, Lincs. Buttrick and Buttrick (F. and A.), 43, Oswald-rd., Scunthorpe. Dep. £2.

Harrow U.D.C.—18 houses at Woodlands estate, Stanmore. E. and S. Dep. £2 2s.

Huntingdon E.C.—Kitchen and dining room at Yaxley C. of E. Girls' and Infants' school. T. H. Longstaff, County S. and A.

Liskeard T.C.—6 houses and incidental works at Lanchard-la. Higman and Ford, 2, The Parade, Liskeard. Dep. £2 2s.

Lowestoft T.C.—116 houses at No. 1 housing site, Yarmouth-rd. B.E. Dep. £2 2s.

†**Maldon R.D.C.**—(1) 30 houses at 4 sites; (2) site works at Latchingdon and Tillingham. A. R. Dannatt and Son, Architects, Prudential-bldgs., Duke-st., Chelmsford. Dep. £2 2s. Tenders by February 3.

JANUARY 21.

Bradford T.C.—464 houses in various sections. City A.

Diss U.D.C.—10 houses at Frenze-rd., Walcott-rd. estate. A. F. Scott and Sons, Architects, 23, Tombland, Norwich. Dep. £1.

Driffield R.D.C.—18 houses in various parishes. Fred Vaux (F.), Danesmoor-chbrs., 31, Quay-rd., Bridlington. Dep. £3 3s.

†***Norfolk E.C.**—Kitchen and stores at Bergh Apton County Primary school canteen. F. G. Limmer (F.), Ed. Architect, Stracey-rd., Norwich. Tenders by January 31.

JANUARY 22.

Hackney B.C.—88 dwellings at Shacklewell-rd., No. 1 contract. B.E. and S. and Director of Housing Development, Town Hall. Dep. £2 2s.

Luton T.C.—Construction of steel-framed corrugated sheet stores building and laying of extension to concrete access road at Chaul-end. B.E.E., Electricity Offices. Dep. £2 2s.

Oakham U.D.C.—10 houses at Cold Overton-rd. S. Dep. £2 2s.

Spenborough U.D.C.—60 houses at Windy Bank estate. E. and S. Dep. £5 5s.

JANUARY 23.

King's Lynn T.C.—8 police houses at various sites. B.S.

Worcester T.C.—10 houses, Ronkswood, Newtown-rd. No. 1 estate, Worcester. City E., 22, Bridge-st. Dep. £5 5s.

JANUARY 24.

†***East Suffolk C.C.**—Canteen kitchen and dining-room at Framlingham Secondary Modern school. E. J. Symcox (F.), County A. Dep. £2 2s. Tenders by February 14.

Halstead R.D.C.—8 houses at "Crocklands," Greenstead Green. D. G. Armstrong, Architect, 57, High-st., Braintree. Dep. £2 2s.

†***Hampstead B.C.**—64 dwellings in the form of two-, three- and four-storey flats at Well Walk. T.C.

†***Surrey C.C.**—5 police houses at various sites. County A. Dep. £2 2s.

JANUARY 25.

†***Malden and Coombe T.C.**—94 dwellings at site No. 11, South-la., and 18 dwellings at site No. 13, Poplar-grove.

JANUARY 27.

***Bootle C.B.**—(a) Demolition of existing and erection of new brick and mass concrete retaining wall at Orrell Mount housing site; (b) erection of 62 dwellings at same site. B.E. and S.

Higham Ferrers T.C.—30 houses at High-st. estate. B.S. Dep. £2 2s.

Macclesfield R.D.C.—12 houses at Sutton Lane Ends. J. H. Walters, Architect, 19, Moody-st., Congleton. Dep. £2 2s.

JANUARY 29.

Clutton T.C.—8 houses at Farrington Gurney and 12 at High Littleton, with roads and sewers. Thomas and Morgan and Partners, 23, Gellivastad-rd., Pontypridd, Glam. Dep. £3 3s.

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Leyburn R.D.C.—40 houses at Maythorne site. N. Dent, Architect, Finkle-st.-chbrs., Richmond, Yorks. Dep. £2 2s.

JANUARY 31.

***Belper U.D.C.**—10 old people's bungalows at Belle Acre estate. A. Percy Taylor, A.I.A.S., M.Inst.R.A., 59, Chapel-st., Belper, Derbys. Dep. £2 2s.

***Belper U.D.C.**—8 houses (type C) at Belle Acre estate. A. Percy Taylor, A.I.A.S., M.Inst.R.A., 59, Chapel-st., Belper, Derbys. Dep. £2 2s.

Shepton Mallet U.D.C.—10 dwellings for aged persons at Compton-rd. estate. C. Dep. £2 2s.

FEBRUARY 1.

***Ventnor U.D.C.**—6 bungalows at St. John's-rd., Wroxall. G. Poole, A.M.Inst.C.E., S. Dep. £2 2s.

FEBRUARY 4.

Barrow-in-Furness C.B.—1 pair of cottages at Poaka Beck. T.C. Dep. £1 1s.

FEBRUARY 7.

Sherborne U.D.C.—24 dwellings and conversion of existing building at Horsecastles. T. W. Sharpe (L.), Council Offices, South-st. Dep. £5.

Wisbech T.C.—24 houses at Mount Pleasant-Bath-rd. estate. Gordon J. Wootton, M.Inst.M. & Cy.E. Dep. £2 2s.

FEBRUARY 17.

London County Council.—Reconstruction of Surrey Lock Bridge. Deputy Chief E. Dep. £10.

NO DATE.

***Halifax T.C.**—Contractors required to submit schemes for temporary shops. B.E.

MISCELLANEOUS

JANUARY 8.

†**Smethwick C.B.**—Demolition of shelters. B.E. and S.

JANUARY 27.

***New Windsor T.C.**—Domestic electric and gas equipment for houses. B.E. Dep. £2 2s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

JANUARY 20.

Camberwell B.C.—B.E. and S.
Wanstead and Woodford B.C.—B.E. and S.

JANUARY 21.

Bradford T.C.—City E. and S.
Hornchurch U.D.C.—E. and S.

JANUARY 23.

Ilkeston T.C.—B.S. and Water E.

JANUARY 24.

Southgate B.C.—B.E. and S.

JANUARY 25.

Bootle C.B.—B.E. and S.
East Grinstead U.D.C.—E. and S.
Farnborough U.D.C.—E. and S.
Orpington U.D.C.—E. and S.
St. Pancras B.C.—T.C.

JANUARY 27.

West Suffolk C.C.—County S.

JANUARY 29.

Lambeth B.C.—B.E.

JANUARY 31.

Hunts C.C.—County S.
Felixstowe U.D.C.—E. and S.
Surrey C.C.—County A.

FEBRUARY 1.

Swansea C.B.—B.E. and S.

FEBRUARY 3.

St. Marylebone B.C.—T.C.

FEBRUARY 4.

Kensington B.C.—T.C.
Rhondda U.D.C.—E. and S.

FEBRUARY 7.

Tottenham B.C.—Acting T.C.

FEBRUARY 8.

Ruislip-Northwood U.D.C.—E. and S.
Selby R.D.C.—S.

FEBRUARY 17.

Cheshunt U.D.C.—E. and S.

ROADS, SEWERAGE AND WATER WORKS

JANUARY 20.

Hiraithog R.D.C.—Covered concrete service reservoir, etc., at Eglwysbach. Engineer's Offices, 18, Trinity-sq., Llandudno. Dep. £5 5s.

Maidstone T.C.—Roads and sewers. E. and S. Dep. £2 2s.

Shaftesbury T.C.—Roads and sewers at Christy's-la. site. A. P. I. Cotterell & Son, 54, Victoria-st., Westminster, S.W.1. Dep. £2 2s.

JANUARY 21.

Berwick-on-Tweed B.C.—Roads and sewers and/or water mains and fittings at Shielfield-ter. B.S. Dep. £2 2s.

Bradford-on-Avon U.D.C.—Roads and sewers at Ashley-rd. S.

JANUARY 22.

Bathavon R.D.C.—Roads and sewers, etc., at Shoscombe and Willow sites. C. C. Axford, S., 30-32, Westgate-bldgs., Bath.

Caterham and Warlingham U.D.C.—Roads and sewers at site No. 6, Slines Oak-rd., Woldingham. E. & S. Dep. £2 2s.

Newport C.B.—Preparation of Gaer No. 2 site. B.E. Dep. £5 5s.

Stoke-on-Trent T.C.—Street works and sewers at Leek-rd. site, Norton. City E. and S. Dep. £3.

JANUARY 23.

Ashbourne R.D.C.—Contract No. 1, Laying of water mains in various parishes; Contract No. 2, Construction of reservoir at Haven Hill. H. Litchfield, Sanitary S. Dep. £2 2s.

***Daventry R.D.C.**—Roads and sewers, etc., at Long Buckley. Sir John Brown, A. E. Henson and Partners, 83, St. Giles-st., Northampton.

Worcester T.C.—Roads and sewers at Roundwood estate No. 2. City E. Dep. £5 5s.

JANUARY 24.

Carlisle T.C.—Construction of sewer from Harraby to Regent-st., and surface water outfall, etc. City E. Dep. £2 2s.

Frimley and Camberley U.D.C.—Roads and sewers at Manor Farm estate. E. and S. Dep. £2 2s.

Kent C.C.—Tarpaving. County A.

JANUARY 27.

Grange U.D.C.—Roads and sewers at site No. 3, Fell-dr. E. and S. Dep. £1 1s.

Hartismere R.D.C.—Supply and laying of approximately 4 miles of 4 in. and 8 miles of 3 in. dia. cast-iron water mains, etc. W. Herbert Bateman and Partners, Halifax House, Bank Plain, Norwich. Dep. £3 3s.

Hitchin U.D.C.—Roads and sewers at Purwell-la. E. and S. Dep. £2 2s.

Sale T.C.—Roads, sewers and drainage works at Baguley-la. site. B.S. Dep. £3 3s.

***Ware R.D.C.**—Roads and sewers at Standon. S., 97, New-rd., Ware. Dep. £1 1s.

JANUARY 31.

Audenshaw U.D.C.—Road and sewers at Corporation-rd. E. and S. Dep. £2 2s.

Durham C.C.—Making-up various streets. County E. and S.

North Devon Water Board.—Laying and jointing of spun-iron water mains. Rofe and Raffety, 3, Victoria-st., S.W.1. Dep. £2 2s.

West Kesteven R.D.C.—Laying of 9-in. and 15-in. combined surface water drain and sewer at Main-st., Ingoldsby. J. Dean, S.

FEBRUARY 5.

Rugby R.D.C.—Laying of approx. 3 miles of water mains and service connections. Contract No. 4. J. D. and D. M. Watson, MM.I.C.E., 18, Queen Anne's-gate, Westminster, S.W.1. Dep. £5 5s.

FEBRUARY 6.

Feltham U.D.C.—Making up road and footpaths at Millbourne-rd., Hanworth E and S. Dep. £2 2s.

FEBRUARY 10.

Harwich T.C.—Extension and completion of existing sewage purification works. J. and A. Leslie and Reid, 72a, George-st., Edinburgh. Dep. £5.

FEBRUARY 11.

Worcester T.C.—Surface water sewer at Bromyard-rd. area. City E. Dep. £2 2s.

FEBRUARY 12.

Audenshaw U.D.C.—Sewerage works contract No. 2. G. B. Kershaw and Kaufman, 1, Victoria-st., Westminster, S.W.1. Dep. £5 5s. (payable to U.D.C.).

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the advertisement pages of this and previous issues.

GENERAL BUILDING WORK

(LONDON)

City. — OFFICES. — The Ecclesiastical Commissioners have leased the site of the former St. Mark's Church, Old-st. It is intended to erect a block of offices on the site. Agents for the negotiations were Messrs. Aubrey Brown and Foster and Edward Erdman, 10, Queen-st., W.1.

Hackney.—HOUSING.—B.E. and S. has prepared a scheme for the development of the Forest-rd. site by the erection of 134 dwellings at an estimated cost of £170,000.

Hampstead.—HOUSING.—Messrs. E. Pasterfield and Partners, 2, Catherine-pl., S.W.1, have been appointed quantity surveyors by the T.C. for the Kilburn Priory housing scheme.

Harrow.—FLATS.—A scheme for the erection of 76 flats at Whittington-way by B. H. Cutler, Ltd., Estate Office, Marsh-rd., Pinner, has been approved in principle by the U.D.C.

Lewisham.—FLATS.—B.C. are to purchase a site in Belmont-grove from Messrs. Henry Kent (Builders), Ltd., and erect thereon a block of three-storey flats (21 dwellings). Subject to the issue of the necessary loan sanction by the L.C.C. The tender of Messrs. Henry Kent at £36,784 is to be accepted for the work.

Lewisham.—HOUSING.—B.C. have been asked to acquire a six-acre site to the east of Baring-rd., adjoining Grove Park railway station, for the erection of 86 flats and 15 houses.

Lewisham.—PROPOSED BUILDING.—The B.C. have raised no objection in respect of the following applications under the Town and Country Planning (General Interim Development) Order, 1946: L. F. Fewster—to erect block of flats in Madeira-ave., corner of Elstree-hill; Rev. C .E. Youngman—to erect Sunday School in Castillon-rd.

Leyton.—HEALTH CENTRE.—The T.C. are considering the erection of a main Health Centre on a site comprising part of the tennis courts and bowling green at the Essex County Cricket Ground, High-rd., E.10.

St. Marylebone.—ADAPTATIONS.—Mr. Joseph Fielden Dixon, A.R.I.B.A., has been appointed by the B.C. to prepare and execute schemes for the adaptation of requisitioned properties in the borough.

St. Marylebone.—HOSPITAL EXTENSION.—An extension is proposed for the radiotherapy department of the Middlesex Hospital, Mortimer-st.

St. Marylebone.—HOUSING.—The B.C. propose to erect 24 dwellings on a site at the junction of Lisson-grove and St. John's Wood-rd. Messrs. Easton and Robertson, FF.R.I.B.A., 54, Bedford-sq., who prepared sketch plans, are to be the architects for the scheme.

Whitehall.—ALTERATIONS.—Extensive structural alterations are to be carried out at the Horse Guards.

(PROVINCIAL)

Bexhill-on-Sea.—Bexhill-on-Sea Association of Building Trades Employers negotiating with B.C. for erection of 50 houses at Pebsham area for sale to Council.

Blackpool.—Thomas' Motor Depot, Ltd., Whitegate-dr., propose motor showrooms, offices, garage and filling station off Park-rd.

Boldon.—Paint factory proposed for Idlard & Son, Ltd., Sunderland. Architect: Howard Hill, 10, Winchester-st., South Shields.

Bolton.—T.C. approved: Extensions, extract factory, Lever-st., for William Walker & Sons, Ltd.; additions at Astley Bridge Mills, Holland-st., Astley Bridge, for John Ashworth (1903), Ltd.; extensions to works, Manchester-rd., for Pilot Works, Ltd.; works canteen at Bee Hive Mills, Lostock, for John Ainscow & Co., Ltd.; alterations at Alexandra Mills, Wolfenden-st., for Greaves & Thomas, Ltd.

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Bridgnorth.—R.D.C. to negotiate with S. A. Lowe & Co., Ltd., for erection of houses at Hilton.

Brighouse.—T.C. approved extensions at Valley Dye Works, for Bradford Dyers' Association, Ltd., 39, Wells-st., Bradford.

Bury.—T.C. approved: Garage at Union-st., for Bury & District Bill Posting Co., Ltd.; garage and filling station at Walmsley-rd., for Spurrier, Glazebrook, Ltd.

Chesterfield.—The Disabled Persons' Employment Association propose factory at Sheffield-rd., Whittington Moor, for disabled persons.—T.C. approved dairy and processing and heat treatment departments for Express Dairy Co., Ltd., London.—A. Bolton, 24, Elmhurst-av., Mapperley, proposes cinema and dance-hall at Church-st.

Eccles.—T.C. approved canteen and kitchen at works, Patricroft, for Eccles Spinning & Manufacturing Co., Ltd.

Eccles.—T.C. approved motor showrooms, offices, petrol filling station, etc., at Regent-st., for Groveton Motors (Eccles), Ltd.

Gateshead.—Factory proposed for disabled persons. Architect: C. S. Errington, 46, Grainger-st., Newcastle.

Hartlepool.—Sutton Trust to erect 360 working-class cottages. Architect: C. S. Errington, 46, Grainger-st., Newcastle-on-Tyne.

Heywood.—T.C. approved canteen at works, Princess Mill, for Brookfield Manufacturing Co., Ltd.—Lancs E.C. propose school canteen to two schools.

Hull.—T.C. approved factory at Stoneferry, for J. L. Spooner, Ltd.

Hyde.—T.C. approved alterations to offices, Pine-st., for T. Warrington (Hyde), Ltd.; additions at Carrfield and Baileyfield Mills, Newton-rd., for Ashton Bros. & Co., Ltd.

Jarrow.—Factory proposed for disabled persons. Architect: C. S. Errington, 46, Grainger-st., Newcastle.

Liverpool.—T.C. to acquire 4,000 acres of farmland at Kirby for development of satellite town.

Manchester.—P.H.C. propose Minor Health Centre, at £67,325.—T.C. approved additions to factory at Vickers-st. and Hulme Hall-la., Miles Platting, for Newtons (Ironfounders), Ltd.; additions to factory at Clayton-la., Clayton, for Anchor Chemical Co., Ltd.; 85 houses at Parkleigh-dr., Kenwick-dr., etc., New Moston, for J. Saxon, 508, Victoria-av., Blackley; reinstatement of factory at Rusholme-rd., Chorlton-upon-Medlock, for Fems Manufacturing Co., Ltd.

Middlesbrough.—Additions proposed by Lionweld Steel Flooring and Stairway Co., Ltd., Marsh-rd., Middlesbrough.

Middleton.—T.C. approved additions to Fielding Mills, Walton-st., for Yorkshire Dyeing and Proofing Co., Ltd.

Newcastle-on-Tyne.—Extensions to be made to garage of Hoults, Ltd., Market-st., Newcastle-on-Tyne. Architects are Marshall & Tweedy, Grainger House, Blackett-st., Newcastle.

North Shields.—Albert Edward Docks Sawmills Co., propose to erect factory at the docks. Plans by J. Walton Taylor & Son, Norwich Union-bldgs., Westgate-rd., Newcastle.

Northwich.—G. F. Miller, The Crescent, proposes restaurant and dance-hall at Brockhurst-st.

Oldham.—T.C. approved: Additions at Hollinsrd Mill for Iris Mills, Ltd.; extensions to works at Hadfield-st., for Oldham Sheet Metal Co., Ltd.; extensions to works at Rochdale-rd., for Emanuel Whittaker, Ltd.; additions to works at Beever-st., for H. J. & S. Products, Ltd.; Milled Metals, Ltd., Bolton, acquired buildings at Moss-la., Royton, for new works.

Oxford.—Plans approved for additions at Eagle Ironworks, Walton Well-rd., for W. Lucy & Co., Ltd., engineers.

Oxford.—Extensions to be carried out at Majestic to provide quarters for building operatives, at £10,000.

Oxford.—Preliminary plans for erection in permanent light construction of County Primary Schools at Rose Hill and Barton, approved by E.C. for submission to M.E.

Rawmarsh.—Co-operative Wholesale Society, Ltd., 1, Balloon-st., Manchester 4, propose factory.

Rochdale.—T.C. approved 23 garages at Oxford-av., for W. Butterworth; works at Annst. and Henry-st., for N. C. Brown; alterations at Redbank Mill, Bury-rd., Castleblancas High Draft Co., Ltd.; warehouse rear of 2-4, Whitworth-rd., for H. S. Barnford & Co., Ltd.

Rotherham.—T.C. approved works at Ginhouse-la., for J. Wilkinson & Son, Ltd.; workshop and warehouse at Rawmarsh-rd., for E. & F. Fawley, Ltd.

Rothwell.—H. Briggs, Sons & Co., Ltd., Water Haigh Colliery, propose 55 houses at Aberford-rd., Woodlesford.

Rushden.—Sound Engineering Co., Hove-rd., propose factory.

Salford.—T.C. approved: Research laboratories

at Lower Broughton-rd., for British Cotton & Wool Dyers' Association, Ltd., 22, Cumberland-st., Deansgate, Manchester 3; canteen and flat at works, Broughton-la., Lower Broughton, for Kays (Manchester), Ltd., Dale-st., Manchester 1; clothing factory, Back Hamilton-st., Broughton, for Marcus Goldstein; factory, Masonic Buildings, Police-st., Pendleton, for J. & M. Levy & Sons, Ltd.

Sheffield. — Estates Committee approved scheme by City Architect for erection of 36 old people's bungalows at Parson Cross estate extension.

Silloth.—West Cumberland Industrial Development Co., Ltd., Roper-st., Whitehaven, propose factory.

Slough.—B.C. to negotiate with Manor Park Construction Co., Ltd., for erection of houses at Farnham Royal.

Stockport.—T.C. approved: Additions to works at Stockport-rd., Cheadle Heath, for Dean & Co. (Stockport), Ltd.; additions to Heapriding Mill, Ford-st., for J. H. Clegg & Son, Ltd.

Stretford.—T.C. approved: Rebuilding showrooms and offices at Chester-rd., Old Trafford, for Colmore Depot, Ltd., 200, Deansgate, Manchester 3; works canteen, Elsinore-rd., Old Trafford, for Robert Carlyle & Co., Ltd.

Tynemouth.—Gray & Kinghorn, Camden-st., North Shields, prepared plans for factory at West Chirton, for Torday & Co., Ltd., North Shields.—Arthur & Kirkup, 13, Swinburne-st., Gateshead, are the architects for factory at West Chirton for Levine & Co., Ltd., Pudding Chare, Newcastle-on-Tyne.

Urmston.—U.D.C. approved reconstruction of "D" warehouse, Trafford Park, for Port of Manchester Warehouses, Ltd.

Wakefield.—T.C. approved factory at Smyth-st., for Close Asbestos & Rubber Co., Ltd.

Walsall.—T.C. approved extensions to works at Brockhurst-cres., for Graham Firth Steel Products, Ltd.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government departments*.

Ashton-under-Lyne.—"No Fines" houses at Rosehill-rd. and Fountain-st. sites, for T.C. A. T. Kemp, B.S.: ‡George Wimpey & Co., Ltd., 6, The Grove, Hammersmith, W.6.

Bakewell.—Eight houses and block of four, also site works at Youlgreave, for R.D.C.: *A. Marsden & Son, Youlgreave, Bakewell.

Biggleswade.—Six houses at Langford: *Wright's (Langford), Ltd., £7,389; four at Stanford: *H. A. Bass, £5,205.

Blackwell.—10 house at New Houghton, for R.D.C. S. Wells, Architect and Housing Superintendent, "Dale Close," 100, Chesterfield-rd. South, Mansfield: *Wright Bros., 48, Mason-st., Sutton-in-Ashfield, Notts.

Bolton.—Houses, for T.C. C. Herbert, B.E., Town Hall. 12 at Moss Bank-way: *A. S. Woods, Easedale-rd., Bolton, £13,200; 12 at Greenbank-rd.: *Stanley Porter, Ltd., Crofters Saw Mills, Bolton, £12,948.

Brentford and Chiswick.—Repair of war damage to west wing of Brentford Boys' Secondary Modern school, Clifden-rd., for T.C.: *Bulwark Building, Ltd., 11, Pembridge-cres., W.11, £375.

Bridlington.—48 Airey houses, for R.D.C.: *C. Cammidge & Son, Shipsea; for eight at Burton Fleming, £12,364; and eight at Ulrome, £12,345: *A. Scofield (Builders), Ltd., Hornsea, for 14 at Flamborough, £21,539, 14 at Hunmanby, £21,597 and four at Thwing, £6,238. Total cost, £74,084 (subject to M.H. approval).

Brinsworth, Yorks.—Factory, nr, Brinsworth Hall Farm, for manufacture of concrete pavements, flags, etc.: *Finnegan & Co. (Sheffield), Ltd., Sheffield.

Caterham and Wallington.—12 dwellings at Sunnybank site No. 6, for U.D.C.: *Wm. T. Yeates & Co., Ltd., 6, Wandrake-pl., Doctors Commons, E.C.4, £12,360 (subject to M.H. approval).

Clun.—Eight permanent houses and four Swedish houses at Brockton (Worthen) housing scheme. A. E. Williams (L.), architect, Kenneth-chbrs., Dogpole, Shrewsbury. Quantities by Walter B. Bond, F.S.I., 3, Newhall-st., Birmingham 3: *J. Bromley & Son, Church Stretton, Salop, £13,094 and £4,327.

Croydon.—Six houses at Ashburton estate, for C.B.: *Associated Builders (Streatham), Ltd., 33, Ferrers-rd., Streatham, S.W.16, £7,090 (subject to M.H. approval).

Dewsbury.—Dining-room and kitchen at Thornhill Modern school, for T.C.: *Wilsons (Whitkirk), Ltd., 395, Selby-rd., Whitkirk, Leeds.

Dumbarton.—500 houses at various sites, for C.C.: *Melville, Dundas & Whitson, Ltd., 21, Blythswood-sq., Glasgow.

Dunston-on-Tyne.—Offices for De La Rue Plastics, Ltd., North Eastern Trading Estate: *T. Clements & Sons, Selbourne-gdns., Newcastle.

Durham.—Kitchen at Horden Colliery: *T. Berriman, Fencehouses, Durham.

Gateshead.—Bus station at Trading Estate: *G. Wimpey & Co., Dunston-on-Tyne.

Gateshead.—20 houses at Harlow Green, by private enterprise. Fennell & Co., architects, Bridge End-chbrs., Chester-le-Street: *E. P. Calderwood, Ltd., Chow Dene estate, Low Fell, Gateshead.

Hartlepool.—59 temporary houses: *E. Lawson, 10, Woodland-rd., Darlington.

Horsham.—125 houses at Comptonslane site, for U.D.C.: *Horsham & District Builders' Association, £166,866.

Leeds.—Central school kitchen at Leacroft school, Parklands estate, for E.C. P. B. Haswell (A.), Education Architect, Calverley-st.: *S. Flockton, Ltd., Stoney Rock-la., Leeds 9.

Lewisham.—Block of three-storey flats (21 dwellings), at Belmont-gr., for B.C.: *Henry Kent (Builders), Ltd., £36,785.

Little Lever.—48 houses and 16 bungalows at Mytham-rd. estate, for U.D.C. Bradshaw, Gass & Hope (FF.), 19, Silverwell-st., Bolton: *R. J. Tyson, Wellington Saw Mills, Bolton.

Liverpool.—Works for T.C. 60 flats in blocks of five at Cantril Farm estate: *Unit Construction Co., Ltd., Bentham-dr., Liverpool, £68,702 (subject to M.H. approval); 12 additional houses at Speke estate: *Unit Construction Co., Ltd., £13,268 (subject to M.H. approval); adaptation of "Beechley," Harthill-rd., for babies' home: *Moore & Mason, Tranmere, Birkenhead, £2,611.

Llanfairfechan.—12 houses, roads, sewers and drains at Pen-y-Bryn site, for U.D.C. R. J. Hughes, architect: *William Evans & Son (Pentreath), Maeslodwry Yard, Bangor, £16,753.

¶London (Admiralty).—Particulars of contracts: *Portland*: Resurfacing incline road, W. & J. Glossop, Ltd., Cowick-st., Exeter.

¶London (Admiralty).—*Portsmouth*: H.M. Dockyard, Resurfacing roads, Geo. Wimpey & Co., Ltd., 27, Hammersmith-gr., London, W.6; repairs at Hanover-st. canteen, E. & A. Sprigings, 201, Highland-rd., Southsea.

¶London (Air Ministry).—Contracts to value of £500 or over for week ended January 4:—*Painting work*: Geo. M. Carter (Erectors), Ltd., Newcastle-on-Tyne. *External decorations*: C. J. Else & Co., Ltd., Matlock. *Electrical work*: Standard Telephones & Cables, Ltd., London, N.11; Cinema Television, Ltd., London, W.1.

¶London (M.O.W.).—Contracts placed by M.O.W. for week ending January 2:—

Aberdeen: Strichen Public school, Kitchen and canteen, Adam Birnie, 10a, Claremont-st., Aberdeen. Turriff Secondary school, Temporary classrooms, James Blake, Ltd., 7, Albyn-ter., Aberdeen. Peterhead Academy, Temporary classrooms, James Blake, Ltd., 7, Albyn-ter., Aberdeen. Skeme Central Public school, Temporary classrooms, James Blake, Ltd., 7, Albyn-ter., Aberdeen. *Ayrshire*: Smallburn, Site work and Seco houses, Thos. Findlay & Sons, Horwood-pl., Mauchline. *Bucks*: Buckingham Modern Secondary school, Temporary classroom, W. & A. Collinson, Brittania-rd., Banbury. *Ches*: Swynnerton, Yarnfield P.O. Training School. Conversions, M. A. Boswell, School-st., Wolverhampton. *Devon*: Plymouth C.C. 16a, Residual work for Aluminium houses, J. Garrett & Son, Ltd., 34, Tavistock-rd., Plymouth. *Dorsetshire*: Poole, Parkstone school. Kitchen and canteen.

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A. S. Prince & Co., Ltd., 1079, Christchurch-rd., Bournemouth. *Gloucester*: Bristol, Woodland-rd., Huts, Thos. Weeks & Sons, Ltd., Ashton-gate, Bristol. *Hampshire*: Bournemouth, Malmesbury Park school, Temporary kitchen and canteen, A. S. Prince & Co., Ltd., 1079, Christchurch-rd., Bournemouth. Farnborough R.A.E., West extension, Tarrant, Builders, Ltd., Wentworth, Virginia Waters. Farnborough R.A.E., Wind tunnel, Markham & Co., Ltd., Broad Oak Works, Chesterfield. *Kincardineshire*: Laurencekirk, Junior Secondary school, Temporary classrooms, Laird Bros., 13, Robertson-ter., Forfar. *Lanarkshire*: Bellshill, Site work and Tarran houses, Modern Homes (Edinburgh), Ltd., 4, Melville-cres., Edinburgh. Shotts, St. Patrick's R.C. school, Dining-room and scullery, Pope & Co., The Cross, Cleland. Cambuslang, Site work and foundations, Aluminium houses, Whatlings, Ltd., 10, Woodside-cres., Charing Cross, Glasgow. *Lancs*: Denton, Howard houses, Greenwoods Building Industries, Ltd., Sales Works, Lees-rd., Oldham. *Middx*: Edgware, Burnt Oak, St. James Secondary school, Temporary buildings, Haymills (Contractors), Ltd., Hangar Green, Western-av., W.5. Stanmore, Chandos Senior school, Temporary buildings, Ferris Bros., 104 & 106, Churchfield-rd., Acton, W.3. *Monmouthshire*: Bedwelty U.D.C. 3, Temporary houses, Kent & Sussex Contractors, Ltd., Stelvio Park-dr., Newport. *Northumberland*: Longbenton: Adaptations, John Jackson & Sons, 72, Corporation-st., Newcastle-on-Tyne. *Oxfordshire*: Woodstock, Hensington Without Voluntary Secondary school, Temporary buildings, Hinkins & Frewin, Ltd., Cranham-st., Oxford. Oxford, Littlemore County Senior school, Temporary classrooms, Ephraim Organ & Son, 205, Cowley-rd., Oxford. Henley C.E. school, Temporary classrooms, H. R. Davey, Earley Reading. *Ross*: Invergordon, Ross & Cromarty, Site work and Arcon houses, Hendry & Keith, Ltd., 21, Gilcomston-park, Aberdeen. *Staffs*: Hanley, Factory for Disabled Persons, Erection and completion, G. & J. Seddon, Ltd., 35, Duke-st., Fenton, Stoke-on-Trent. *Stirlingshire*: Strathblane, Site work and Arcon houses, Hamilton & Forbes, Ltd., 60, Hydepark-st., Glasgow, C3. Balfron, Central kitchen, Wilson & Garden, Ltd., 17-21, Newton-st., Kilsyth. *Yorks*: Sheffield D.S.I.R., Alterations and additions and erection of standard hut, Thos. Wilkinson & Sons, Olive Grove Works, Sheffield 2.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended December 21:—

Ches: Miscellaneous work, J. J. Lavin, Ltd., Rock Ferry, Birkenhead. *Oxfordshire*: Miscellaneous work, Knowles & Son (Oxford), Ltd., Oxford. *Hampshire*: Miscellaneous work, Liddellow, Ltd., Wembley.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended December 28:—*Yorks*: Miscellaneous work,, J. Cullan & Sons, Ltd., Leeds. *Lancs*: Miscellaneous work, Messrs. Sandersons, Swinton, Lancs. *Leics.*: Miscellaneous work, E. Sherriff (Rearsby), Ltd., Rearsby, Leics. *London*: Miscellaneous work, Messrs. Lovesay & Son, Ltd., London, N.12.

Machynlleth.—Additions for classrooms, practical room and cloakrooms at County School, for Montgomeryshire E.C. H. Carr (L.), County A., County Offices, Welshpool: *W. Humphreys, Oakdene, Machynlleth, £14,450.

Manchester.—Houses at Newall Green area, Wythenshawe, for T.C.: *Expansion, Ltd., Fallowfield (44); *A. Wallwork, Stretford (30); *Mercer & Hardman, Sale (53); *T. Costello, Ltd., Heaton Moor (55). (All subject to M.H. approval.)

Morpeth.—Garage, for David Gray & Co.: *R. Carse & Sons, Oldgate, Morpeth; coach-building works, for Halliwell & Wellway, Ltd.: *J. Dodds, Wansbeck-st., Morpeth.

Newcastle-on-Tyne.—114 temporary houses at Walker, for City Council: *Havery & Co., Milburn House, Newcastle.

Newcastle-on-Tyne.—Extensions to factory, for Essen Furniture Co., Sandgate: *J. Jackson & Son, Corporation-st., Newcastle; bakery at Coast-rd., for Embleton & Sons: *Stephen Fenwick, 46, Dunn-st., Newcastle; dental school and dental hospital at Medical School: *J. R. Rutherford & Sons, Jesmond-rd., Newcastle.

Oldham.—School kitchen at St. Mary's R.C. school, for Managers: *E. E. Coleman, Ltd., Waverley-rd. works, Sale, Ches.

Orrell.—44 houses at Moor-rd., for U.D.C.: *Nixon & Boardman (20) and *George Halliwell (24), both of Moor-rd., Orrell.

Poplar.—Rebuilding 80 and 82, Bow-rd., for T.C.: *Braine & Co., Ltd., 84a, Cranbrook-rd., Ilford, Essex, £3,144.

Salford.—Houses, for T.C.: 105 houses, together with outhouses, fencing, site works and external services, etc., at Wardleworth estate, Pendleton: *C. Musker Bros., Ltd., Swinton, £126,709 (subject to M.H. approval); 67 houses and 16 bungalows, together with outhouses, fencing, site works and external services, etc., at Wardleworth estate, *Wm. Gornall & Sons, Ltd., Salford, £97,558.

Sheffield.—62 houses and 28 flats at Parson Cross estate. Extension for City Council: *M. J. Gleeson, Ltd., £96,041 (subject to M.H. approval); reinstatement of war damage and alterations at Abbeydale-rd. school, for E.C.: *R. S. Hutchinson, Ltd., £12,689.

Shilbottle.—Factory for the Board of Trade: *W. Moss & Son, St. Mary's-pl., Newcastle.

Sidmouth.—Works for U.D.C. Three houses at Salters Meadow: *W. F. Ryall, £2,444; 22 houses, four cottages and conversion of Lymebourne House into flats: *Sidmouth Federation Builders.

Skipton.—14 houses at Eshton-rd., Gargrave, for R.D.C. T. Yeadon, S.: *W. Windle & Son, East-st., Gargrave, nr. Skipton, £17,645.

Slough.—Four houses at corner of Park-la. and Buckland-av., for B.C.: *Cornish Bros. (subject to M.H. approval).

Slough.—Ten houses at Stoke Poges for sale to B.C.: *Manor Park Construction Co., Ltd.

South Shields.—Canteen at King-st., for Jacksons (The Clothiers), Ltd. Architect: E. M. Lawson, Barras-bldgs., Barras Bridge, Newcastle-on-Tyne: *F. J. Hepple, Dunn-st., Newcastle-on-Tyne.

Stepney.—Nursery at Christian-st., for B.C.: *Token Construction Co., Ltd., 48, Albemarle-st., W.1, £7,544.

Stockport.—Houses for T.C. Wm. F. Gardner, M.Inst.C.E., B.S. 152 additional houses at Houldsworth estate, Reddish: *W. Farley & Co., Ltd., 129, Longford-rd. West, Reddish, Stockport, £171,153; roads and sewers, £15,656; eight houses at Poplar-gr. site: *J. Cresswell, Buxton-rd., Great Moor, Stockport.

Tain.—50 four-apartment houses at Glebe site, for T.C. Alex Ross & Son (F.), 28, Queensgate, Inverness: *Campbells Estates, Ltd., Cuffley, Herts.

Tynemouth.—Police garage at junction of Norfolk-st. and Tyne-st., for T.C. D. M. O'Herlihy, B.E., 19, Howard-st., North Shields: *Benjamin Peel, Ltd., East Mill Works, North Shields.

Urmston.—Eight houses at Ullswater-rd., Davyhulme, for U.D.C. E. L. Leeming, M.Inst.C.E., E. & S., Council Offices: *D. Franklyn, Midland Bank-chbrs., Station-rd., Urmston, 21s. 8d. per sup. ft.

Wanstead and Woodford.—42 flats at Eastern-av., for B.C.: *J. & J. Dean, Ltd., Ruckholt Works, Ruckholt-rd., E.10, £54,266.

West Hartlepool.—Factory for Siemens Bros., London: *H. E. Pitt, Ltd., Millfield, Sunderland.

Whickham (Co. Durham).—Additions at Whickham and District Hospital. Architects: Cackett, Burns Dick & McKellar, 21, Ellistonpl., Newcastle-on-Tyne: *Bewley & Scott, Dunston-on-Tyne.

Wilts.—Four police houses at Somerset-rd., Swindon, and one at Shrewton, for Standing Joint Committee: *Tydeman Bros., Edgware-rd., Swindon, £7,046, and *S. T. Brown, Larkhill, £2,390 (subject to Home Office approval).

Workington.—44 houses at Laverock Hall estate, for T.C. Handel Kay, B.S.: *Leslie & Son, Coach-rd., Whitehaven, £53,680.

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